PUBLIC ACCESS TO CONGRESSIONAL INFORMATION IN THE TECHNOLOGICAL AGE: CASE STUDIES

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EXECUTIVE SUMMARY

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In its role as a representational institution, Congress has traditionally supported meaningful citizen participation by providing access to--and in some case actively disseminating--significant bodies of information about its internal decision-making process. Technologically enhanced internal methods of information collection, production and dissemination have affected the ways in which Congress uses its own information and provide the potential for better supporting the public's right to know. Congress is faced with a number of policy decisions which will determine the degree to which new technology either increases the potential for public access to Congressional information or contributes to greater information inequality.

Under the current system--involving a mix of public and private information sources and a wide variation in the availability of technologically augmented information--public access to congressional information varies dramatically depending on one's financial resources, knowledge of where to acquire the necessary information and proximity to Washington. Equity of public access is decreased to the degree that awareness of the existing information is limited, that all potential users do not get the information at the time they need it, that the costs for information are not equal and/or beyond the means of some potential users, and that technologically enhanced search and retrieval methods allow some users such an increase in efficiency that it disadvantages competing information users.

As new technology allows Congress to grant access and/or actively disseminate its information, a number of key questions must be answered:

- -What Congressional information should be made available and how does new technology redefine the answer?
- -When should the information be made available and what are the political and practical implications of increasing timeliness?
- -In what format should the information be made available?
- -What are the relative roles of Congress, established government supported dissemination vehicles (the Government Printing Office, the Document Rooms, Information Hot lines, Member offices, the Depository Library System, etc.) and the private sector for disseminating congressional information?

Answers to all of the above questions require focusing on the most appropriate format for congressional information. While traditional reliance on hard copy printed formats is currently the norm, new technology offers the opportunity to increase timeliness, expand comprehensiveness, upgrade searchability and reduce archiving problems. On the other hand, new technologies require user training, additional equipment and--to the degree that they are additions rather than replacements for printed material--involve additional cost to either Congress or the end user. Different technologies (traditional printing, print-on-demand, microform, CD-ROM, On-Line, etc.) differ as to their rating on the above criteria, while different categories of congressional information (transcripts of debates, background committee information, scheduling and bill status) highlight the importance of varying criteria.

The Congressional Record: Publication of the hard copy Congressional Record by the Government Printing Office (GPO) is one of the modern wonders of information production. Recent changes in the production process set the stage for an electronic version as a byproduct. A number of commercial firms are on the verge of disseminating the electronic version, augmented with a variety of search and retrieval capabilities, while a number of congressional units have such systems under development for internal use. While no one assumes that electronic versions will replace the hard copy in the foreseeable future, availability of a new format raises questions concerning impact on the production process, threats to the GPO work force, equity of access, and the legitimacy and credibility of congressional information.

An evaluation of the criteria for an ideal format for the Congressional Record suggests that searchability and archivability stand out as current problems, with timeliness of great importance to some users. Assuring equitable public access to the Record is an absolute given based on traditional practice and democratic principles.

The availability of on-line searching of the daily Record, either provided by Congress or through commercial vendors, is the most appropriate use of existing technology. On-Line and tailored print-on-demand retrieval access to the Record would be highly desirable, but is of lower priority. CD-ROM technology seems to be the most appropriate vehicle for archiving searching and retrieving the bound version. As a replacement for the hard copy bound version (or microform), CD-ROM could also result in significant cost savings.

Committee Reports, Prints and Hearings: Congressional committees commission and create a wide variety of materials which support their decision-making process. Increasingly this material is being produced in electronic form. While searching abstracts of this material is relatively easy (using the commercial Congressional Information Service indexes), dissemination is almost exclusively via hard copy or microform.

To a large degree, the format criteria for committee materials are similar to those for the Record. Timeliness is somewhat more important for public access to committee materials (especially hearings) as various interests attempt to affect the development of policies. The fact that committee jurisdictions overlap and different types of committee documents are disseminated in different ways increases the difficulty for users to assure comprehensiveness under current procedures. Full text on-line searching would be desirable, but somewhat less important than for the Record,

Assuring public access to a comprehensive and searchable data base of abstracted committee material in a timely fashion would be the best use of existing technology. CD-ROM has considerable promise for archival searching and retrieval.

Scheduling and Bills Status Information: Knowing what is coming up and what has gone on in Congress is important, especially for citizens and groups actively involved in the legislative process. The rights of public access to this anticipatory and/or "real time" information are less well established than information such as the Record or committee material viewed as "after the fact" reporting. The fact that Congress has greatly enhanced its own monitoring information and a variety of commercial vendors successfully provide such information for a fee reveals its utility. Current access to such monitoring information depends on one's resources and/or contacts. If the public is to be allowed to play a role in policy formation, it suggests that public access to monitoring information should be enhanced.

The key format criteria for monitoring information is timeliness, with comprehensiveness and searchability close runners up. It is hard to imagine anything but an on-line data base serving as the basis for such a system. For the average citizen or infrequent user, the data base might be transparent with information provided over a toll free "Congressional Information" line (which could also guide citizens to Congressional Record references, committee materials and even take orders for hard copy materials or tailored print-on-demand products).

The most realistic ideal access and dissemination plan for congressional information involves a mixed public/private approach with a permissive view of possible formats. Competition and even redundancy are not bad, IF they encourage innovation and reduce information inequality. There are good reasons why Congress should not simply become a massive vendor of its own data, just as there are good reasons not to allow the commercial market place to dominate the dissemination process with profit as the ultimate criteria. Recognizing that we are dealing with public information requires each of the stake holders (Congress, congressional sub units, new technology vendors, traditional technology vendors, libraries, etc.) to make some concessions in order to assure public access. Recognizing that we are dealing with something other than a traditional "product" suggests that

some nontraditional approaches must be used.

The Government Printing Office retains the responsibility to create high quality source documents in a form which allows for their translation into a wide variety of formats. The Depository Libraries must establish a commitment to serve as dissemination points for technologically enhanced information. Congress must provide the resources for supporting technological development in both the GPO and the Depository Libraries and assess its own internal information processing and dissemination practices to increase efficiency and better serves both its own and the public's need for information. Vendors of congressional information have a responsibility to recognize the source of their raw material, realistically assess the degree of value added, and take the public's right to access into account when determining access and pricing policies for the public.

New technology does not allow Congress to abdicate its responsibility to fully inform the public. To the contrary, available technology holds the potential for providing a realistic means by which a broader range of citizens can monitor, effect and react to the policy process.

DRAFT

PUBLIC ACCESS TO CONGRESSIONAL INFORMATION IN THE TECHNOLOGICAL AGE: CASE STUDIES

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In this bicentennial year of the U.S. Constitution, we are reminded that the U.S. Congress was designed to be close to the American people and represent their interests. The ability of citizens to play a meaningful role in government requires citizen access to information about what Congress, its intentions and what it has done in the past. From a constitutional perspective, the courts have argued that "individual rights under the First Amendment include not only the right to express oneself, but also the right to receive information" (see Scott, 1984, pp. 9-9). More specifically in relation to Congress:

> Providing ready access to information about the activities and work of the Congress is a significant contribution to the maintenance of democratic values. If we are going to create cumbersome hurdles for the many people who practice the values of democracy and constitute an informed electorate, then we must be willing to pay a price far higher than the cost of these valuable programs in the future, the price that comes with an apathetic and ill informed citizenry (Millier, 1987, p. 3).

Very early in the Republic, Congress provided for the printing and distribution of its records to the public. For two hundred years, Congress has relied primarily on the printing and distribution of hard copy documents to fulfill the responsibility of informing the public. After relying on private printers, the creation of the Government Printing Office in 1860 gave government, and particularly the Congress, the means to produce documents for its own and the public's use. The formal establishment of the Federal Depository Library system in (with a much longer tradition of sending federal government documents to state libraries and historical societies) assured a wide distribution of public documents.

Relying on the predominant duplication and distribution techniques of their day, early law makers and their successors improved the timeliness and efficiency of producing and disseminating hard copy documents, but did little to move from the reliance on the print medium. During the last few years, rapid advances in the technology available for producing, duplicating, communicating, and searching information have given Congress a variety of policy challenges unanticipated by even the most recent Congresses. Congress has not stood still in the face of technological change, exerting considerable effort on using new methods of producing information (office automation),

new methods of producing information (office automation), duplicating documents (computerizing much of the GPO printing process), communicating information (electronic mail systems within and between congressional offices) and searching information for in-house use (the creation of numerous legislative data bases for use by congressional offices). (See Frantzich, 1982 and 1985).

The major policy question of this analysis is the degree to which public access to congressional information has been challenged and/or enhanced by these and related changes. In the process it will be necessary to establish criteria for evaluating public access, assessing the current level of access, identifying the threats and opportunities new technologies provide for access, and outlining the various options for coordinating the goals of public access and those which may compete with it.

SOME GOALS POTENTIALLY COMPETING WITH PUBLIC ACCESS

No one either in or out of government seriously opposes public access to congressional information in the abstract, but some competing goals impinge on the discussion indirectly.

Efficiency

The desire to increase the efficiency of producing congressional information and making it.more useable to the Congress has led to extensive internal applications of modern information technology. Some formats of information storage (computer diskettes, electronic data bases, etc.) may well serve the needs of the Congress while limiting public access. Avoiding the use of new technology for the purpose of assuring public access to traditional formats does not seem to be the answer, but new techniques must be considered for assuring public access in the light changed internal information formats and procedures.

Cost

The production and distribtuion of Congressional information involves significant costs and it is becoming more and more widely accepted that information users should bear some of these costs. Government subsidized public access, especially using expensive new technology, must be balanced against these increased costs.

Embarassment and Inappropriate Use

The more we make the congressional system transparent to citizens, the more likely that criticisms will arise.

> More information tells us about ineptitudes in practice and fumblings of purpose, and about duplicity, or biased motives of information suppliers (Michael, 1984, p 351)

To the degree that Congress can hide some of its actions by limiting information, it protects its Members and the institution from potential embarassment.

One can conceive of a whole range of potentially inappropriate uses of congressional information distributed in any form. New technology simply makes some forms of data packaging and manipulation more conceivable. For example, one could use available software to determine, through linguistic analysis, the educational levels on which individual Members debate, causing some embarassment, or measure "egotism" by counting the number of personal pronouns used. While many might argue this is a trivial use of the data, but there is great danger in allowing some group or individual to decide on appropriateness of use. Democracy and public access involves a certain amount of risk--a risk which is absolutely essential to maintain a democracy.

While the above cautions reduce the temptation to provide everyone complete access to everything in every format, they do not undermine the basic principle of broad public access to congressional information.

THE CONCEPTS OF "ACCESS" AND "DISSEMINATION"

For the purpose of this analysis, public access and dissemination of government information will be distinguished. Consistent with usage by OMB (which although no directly applicable to Congress is useful) and the library community (Hernon and McClure, 1986 p.10), "Access" will refer to the availability and ways in which persons obtain information to which they are entitled by law at their own request and on their own volition; while "dissemination" refers to the active efforts of government (or some other entity) to distribute information. (For the OMB wording of circular 130-A see Federal Register, v 50, March 15, 1985, pp. 10739-10740, and for comments see Relyea, et. al., 1985, p. 21.) While the two processes are related, they must be analyzed as distinctly different.

Access

Two aspects of access stand out. "Physical Access" involves the ability of a person to identify the relevant information and acquire it for his use. Physical access requires public awareness of information availability, accurate indexing, an identifiable point of request, timely delivery and a reasonable pricing scheme. "Content Access" relates to the usability of the information once it is in a person's possession. Content access is denied if the information product arrives in a form undecipherable or unusable by the requester. Technology supported formats reduce content access for individuals lacking the training or equipment to use it. Handing a computer tape to an individual without the necessary equipment and/or skill to understand its content may fulfill physical access, but certainly not the content access requirements. Increasingly content access involves the availability of search and retrieval aides which

allow one to make sense out of a massive document or data base. Extensive hard copy documents are of significantly less use if they lack a table of contents, predictable format and/or index. Electronic data bases allow more sophisticated searching either of full text or based on index terms (for a related argument and set of access criteria (see Hernon and McClure, 1986, p 10.)

At a minimum citizens have a right to physical access to a wide range of government information. In terms of content access, it is universally accepted that information must be available in a format usable to the widest range of users, while differences exist over the degree to which government has a responsibility to provide search and retrieval tools, especially the sophisticated and expensive forms required for electronic data bases. As long as hard copy documents or electronic equivalents of those documents are accessible to members of the public, some would argue that traditionally accepted minimal search tools (tables of contents, indexes, etc.) are enough. Others would argue that automated searching tools are so powerful that if they are available to some segments of the public because of their ability to pay or their association with a particular social institution (school, company, interest group, etc.) and not to others that the inequality of content access requires governmental amelioration. To the degree that government information the public has a right to receive no longer is published in hard copy form, or the electronic form is not directly equivalent to the traditional hard copy, content access is denied to those not having the necessary searching hardware and software.

In discussing access, we are talking about information products that were designed primarily to serve an important need of the government agency in question and that public utilization of that information is largely a byproduct rather than the main purpose for creating the information in the first place. Furthermore, in relation to access we are assuming that changes in the format of information products are driven by the needs of the governmental unit rather than by perceived external needs or desires. Under the access concept, it is assumed that even if no one outside of government was interested in a particular information product, it would still continue to be created.

Providing access to government information, although not actively promoting its use through a dissemination program, is far from a passive process. Particularly when it comes to information that by law, or tradition has been available to the public, information managers must anticipate the kinds of information required by the public, evaluate the access afforded by different formats and assure that citizens will not be intimidated by the procedures required to make a request.

A NOTE ON DEFINING THE "PUBLIC"

Despite the goals of "informing the public", no on expects hordes of citizens to drop their daily routines and madly seek out congressional information. Despite increased educational

levels, expanded attention to Congress by the media, enhanced exposure to Congress through forces such as C-SPAN, the mass of citizens pay little attention to Congress. The inforamtion they receive comes indirectly from the press or organized groups of which they are a part and is quite removed from the congressional documents themselves. Changes in access policies are likely to do little about this.

Use of congressional information is more common by sophisticated users in the press, interest groups and law firms which at best represent public interests and keep the public informed. No one expects every citizen to continuously seek out detailed information on a wide variety of issues. Citizens tend to specialize, monitoring narrow issue areas or supporting interest groups monitoring areas which concern them. While Congressmen know that <u>everyone</u> is not watching their every move, the fact that <u>someone</u> may be watching reinforces a sense of responsibility and increases the likelihood of meaningful citizen input. The "public" thus must be defined very expansively to assure citizens have both direct and indirect opportunities to receive congressional information.

Dissemination

Dissemination involves the active promotion and distribution of government information. Distribution may be in its original form, repackaged in an alternative format, revised in content, or accompanied by enhanced content access tools (indexes, search and retrieval software, etc.). While the line between providing easy access to existing government information and disseminating that information is vague, going beyond the traditional information format in search of a "market" (either for paying customers or recipients of information largesse) clearly falls into the dissemination realm.

Dissemination may be directly to the end user, or indirectly through an information "mediator" more visible to and/or in closer physical proximity to the end user. The Federal Depository Library System, the Government Printing Office Sales Program and the National Technical Information Service have traditionally served as the primary dissemination mechanisms for government information.

There is considerably less agreement on the government's required role in dissemination of information than for its duty to provide access to information. As a disseminator, government may be able to recover some of its information costs, promote desired behavior (health, safety, citizen awareness, etc.), and ameliorate information inequalities, but it also comes under criticism for competing with the private sector and reducing the creativity and diversity of information sources.

The above comments about government responsibility in general apply as well to Congress. Although Congress does not come under OMB circular 130-A and has exempted itself from the Freedom of

Information Act and a number of other related pieces of legislation, Congress must face up to most of the same issues relating to its information as other government agencies. If anything, as the representative branch of government, Congress is under greater responsibility to make its information widely available and to create an information access and dissemination plan which can serve as a model for the other branches.

SOME GENERAL POLICY ISSUES ASSOCIATED WITH ACCESSING AND DISSEMINATING CONGRESSIONAL INFORMATION

In assessing access and dissemination, a number of general policy issues emerge. While each of these issues will be discussed (as appropriate) in relation to the following case studies, a general introductory outline will place them in context.

What Congressional Information Should Be Made Available?

It is probably beyond the capacity and clearly outside the responsibility of Congress to anticipate all the ways in which information developed on and by the Congress will be used by the public. Clearly different "publics" have different interests and needs. At a minimum the public has a well established right to the following five types of information:

(1) "Heads up" Information: What is Congress about to do and when? Unless citizens can anticipate impending decisions their involvement in the legislative process will be limited to reacting after the fact. Citizens need to know who will be making particular decisions, where the decisions will be made and when they will occur.

(2) Monitoring Information: What has Congress done and why? What was the rationale and legislative intent behind specific decisions. How are specific decisions likely to impact on citizens?

(3) Pattern Recognition: How do the most recent actions of the Congress or of individual Members relate to previous actions? What factors help explain congressional behavior?

(4) Historical Reconstruction: What are the antecedents of current congressional behavior and practice?

(5) Access Information: Where can one go to get more complete information?

A number of types of information have traditionally been viewed as outside the realm of public access. Internal administrative records, individual Member office records (office administration, mailings lists, etc.),and records of intentionally closed sessions fall in this category. More debate arises over public access to the various decision tools used in the policy process. Commissioned analysis (such as CRS reports) and economic models

undergirding policy decisions have generally not been available to the public and this might well limit its ability to contest and/or understand particular policy decisions (see Frantzich, 1986, pp. 15-16.

The information analyzed in the following cases studies (the Congressional Record, Committee Publications, Bill Status Information, and congressional schedules) clearly falls into the category of information types which traditionally have been made available to the public. It is hard to imagine effective citizen involvement without access to such information.

When Should The Information Be Made Available?

Even the best quality and most comprehensive information arriving too late is of no value. The legislative process is a dynamic, and often fast moving process. If citizens are to have a meaningful role in the process they need information in time to affect its outcome. The time sensitivity of information varies. "Heads up information " (the status of legislation, upcoming schedules, etc.) must arrive in a timely fashion. Finding out about an impending decision or scheduled meeting is of little value if the event has already occurred. "Monitoring Information" (records of actions from the recent past such as some portions of the Congressional Record, committee documents, etc.) lose considerable value for most users as time passes. Other information users have fewer time constraints, but "sooner" is usually better than "later".

Timeliness of information often competes with other values such as completeness and accuracy. The quicker an information product is created, the more likely it will contain errors and not be accompanied by supporting material (such as indexes).

In some realms, virtual "real time" congressional information is emerging. C-SPAN coverage of Congress provides simultaneous information. The FLOOR database available to House offices through the Member Information Network provides summaries of the most recent activity on the floor. At least one data base vendor (Legi-Slate) intends to offer a commercial equivalent to FLOOR by monitoring and coding C-SPAN information.

Shortening the time between information gathering and its availability to the public is a mixed blessing. To some degree current procedures which delay public access until after actions have been taken limit the public's ability to affect those actions. On the other hand delays in access provide a time cushion and a potential "cooling off period," reducing pressures on Members and allowing for a more reasoned reaction by both Members and the public. While it would be technologically possible to provide "real time" access to floor voting information, the spectre of lobbyists grabbing Members during a vote an exerting pressure present an image of citizen impact well beyond most versions of democratic theory.

In What Format Should The Information Be Made Available?

Access to congressional information is meaningless unless it is available to the public in a format they can readily use. It is possible to distinguish between the format made available by Congress and the format by which it is made accessible to the public. Initial format decisions should hinge on the needs of the Congress to provide itself information. Public access will be served if there is a realistic capacity to translate the most favorable congressional information format into one the public can readily use.

FORMAT EVALUATION CRITERIA

Five major formats are commonly discussed for congressional information: paper, microfiche, CD ROM (Compact disc, read only memory), on-line print-on demand, and on-line direct use. The choice between formats depends on evaluating the relative importance of the following types of criteria:

TIMELINESS: The degree to which the material is up to date and available.

COMPREHENSIVENESS AND ACCURACY: The completeness of the information available and its correctness. This includes both the level of detail provided and the degree of historical depth available.

SEARCHABILITY: The ease of finding specific information.

EASE OF USE: The familiarity of the format to the user and the degree to which he has the equipment and the skills to use it effectively.

USER SUPPORT REQUIRED: The more difficult a format is to use and the greater user unfamiliarity the more training and supplier monitoring necessary.

COSTS: It is becoming increasingly clear that information is not a free resource. Production costs, equipment costs and potentially user costs can be significant.

ARCHIVABILITY: Continuity of congressional records is important and different formats involve different levels of cost, security, personnel support and shelf space required for archiving.

FLEXIBILITY: Some formats require requesters to use the information "as is", while others allow considerable flexibility in creating an information product tailored to the user's needs. The more flexible the format, the more it increases user efficiency

STABILITY OF TECHNOLOGY: To what degree will format decisions made today reflect future technological

developments? Have standards developed and will current choices create formats useable for the foreseeable future?

Table 1 summarizes in general terms the relationship of each format to the above criteria. Making a final decision on the most appropriate format is not as simple as summarizing the evaluations (even if complete agreement could be reached on the evaluations). Fully justifiable differences in the importance of various criteria exist both for different potential users and in relation to different congressional information products. For example, representatives of interest groups hoping to affect current policy would put a higher value on timeliness than historians who would rather have comprehensiveness and archivability. Similarly, information such as the status of legislation is much more time sensitive than committee reports.

TABLE 1 EVALUATION OF VARIOUS DISSEMINATION FORMATS

	FORMAT				
CRITERIA*	PAPER	MICROFORM	CD ROM	ON-LINE DIRECT USE	ON-LINE PRINT ON DEMAND
TIMELINESS	0	-	-	+	+
COMPREHENSIVENESS**					
Completeness (historical)	0	0	-	-	-
Security of New Material	0	0	+	+	+
SEARCHABILITY	-	-	+	+	+
EASE OF USE	+	0	0	-	-
USER SUPPORT REQUIRED	+	0	-	-	-
COSTS					
-Production	+	+	0	-	+
-Equipment	+	0	0	0	0
-Passed on to user***	+	0	0	-	?
ARCHIVABILITY	-	+	+	0	0
FLEXIBILITY	0	-	-	+	+
STABILITY OF TECHNOLOGY	+	+	-	0	0

KEY:Entries reflect the relative performance of each medium on the criterion in question. Positive entries indicate that the medium is better than the others on that criterion,negative entries indicate that it is worse, and a zero indicates it falls in between

*See previous page for definitions

**Evaluations of comprehensiveness depend on whether one is talking about inherent potential or realistic assessments of likely applications. The electronic formats involve such production costs it is unlikely that many historical records will be converted thus reducing completeness. Once converted, electronic records are more secure and likely to remain as a complete set than paper or micro formats which can turn up missing.

***Costs to user are evaluated on the basis of the predominance of current patterns for charging users or using cost as a criterion for limiting use. For example, on-line searching, even in public access institutions such as libraries, either involves a fee or a time limit on free usage. Part of the policy decision for Congress in relation to the electronic formats will be the degree to which the government either provides direct access or the resources to purchase the format commercially.

FORMAT SUMMARIES

Paper

Hard copy paper formats stand out as being comfortable to use and relatively inexpensive. Hard copy congressional documents are often massive (over 200 pages per day for the Congressional Record and difficult to search. The way a document is organized determines the way in which it can be searched through scanning. If organized chronologically, searchers are limited to searching in that manner, or simply browsing the full content--a strategy likely to miss a great deal. If the document is indexed, the searcher is constrained by the quality and comprehensiveness of the indexing screen as well as the match between the indexing scheme and the searchers interests. Even with a good index, it is virtually impossible to simultaneously search for sections of a document indexed under more than one term. The bulk of hard copy documents and their "portability" can cause significant problems (storage, document control, etc.) for archival.

Microforms

Microfiche and microfilm stand out as relatively inexpensive methods of storing vast amounts of material. They involve moderate equipment costs, limited user support and minimal training. From the users perspective they have major drawbacks such as difficulty in searching, inaccessibility, eye fatigue and poor equipment. The same problems with searching hard copy documents applys to micro formats with the added limitation on easy browsing. There is a special difficulty with congressional documents with their small print and where it is often necessary to "flip" back and forth from chamber to chamber, digest to the body and/or from one document to another (see statements of Philip Van De Voorde and Page Miller, quoted in U. S. Congress, House, Sub Committee on Legislative Appropriations, 1987). Current G.P.O. contracted microfiche production is marked by significant time delays (6 months or more) although that is not inherent to the technology, except to the degree that efficient microform production could mean delaying the distribution of a particular document until there is enough material to fill a microfiche card or film. Microforms have made archiving of massive congressional publications conceivable, but few individuals view them as a format of first choice.

Compact Disk (CD ROM)

Compact discs can store vast amounts of material 100-200,000 pages per disc and be searched efficiently with the appropriate software. Currently master discs cost $5-$7 and approximately $5 per copy, with costs coming down. CD ROM requires as microcomputer and disc player ($500-$1000 for the player and $2000-$2500 for the micro-computer). The large storage capacity of a disc (50 or more issues of the Congressional Record) increases the cost effectiveness, but efficient use of the technology would require delaying distribution until there is

enough material to fill a disc. While standards are being developed, competing formats are still carving out their market shares making compatibility a problem (see Roth,1986).

On-Line Data Bases

On-Line data bases allow searching massive amounts of material, often in ways impossible using hard copy or microform indexes (i.e. using Boolean logic to search for more than one identifying term simultaneously). Data bases vary considerably as to their search strategies (index terms, key words, full text) and their potential output (bibliographic citations, abstracts, full text retrieval). In some systems, the desired information can be edited either on-screen or after downloading, allowing the user to "cut and paste" different pieces of information into a tailored document. Data bases are expensive to develop and must usually pass on the cost to users. Some data bases are quite "user friendly", using menu driven commands in common English, while others require extensive training and experience. Libraries are still experimenting with methods of making public access to data bases possible within budget constraints. The massive amounts of congressional information strains the storage limits of many data base systems making it likely that full access to everything will have to give way to dropping some data from the data bases after a specified time.

On-Line Print On Demand

For the sake of this discussion, on-line print on demand is conceived of as an alternative way of delivering either complete congressional documents or specified sections of documents currently distributed in hard copy form. It uses much of the same search and retrieval technology of on-line access, but is seen clearly as a replacement of, rather than a supplement to current congressional information process. Print on demand could significantly reduce the cost of producing, distributing and storing congressional documents, while allowing document users to more narrowly specify those sections of documents they really need.

Who Will Provide the Format?

The crux of future access to congressional information involves differing perspectives of the role of government and the role of the private sector. At one end of the spectrum is the perspective that government's role almost exclusively falls into that of collecting information and leaving dissemination to the private sector. At the other end is a view of government as a prime player in the dissemination process, competing with the private sector from an advantaged position and using its expertise and access to its own information as a method of recovering a significant portion of its information production costs. Most observers and participants accept the position that some form of "mixed" system between the two extremes is likely.

Each specific policy is evaluated in terms of whether it increaes or decreases the government role and its impact on other values such as the quality and equity of citizen access and the impact on the other purposes of government.

THE ARGUMENTS FOR AN ACTIVE GOVERNMENT ROLE IN THE DISSEMIANTION OF CONGRESSIONAL INFORMATION

(1) Citizens need full, free and equitable access to congressional information without the barriers of the to pay. Congress has more motivation to maintain the information "safety-net" than the private sector. Citizens should not have to "pay twice" (once through taxes for creating it and then to a vendor for disseminating it) for the same information (see CIoud, 1987, p. 22; Bushkin and Yuron, 1980; and Ferrell, 1986).

(2) Congress is a prime user of its own information, and without the income from selling it there would be less capacity for creating what Congress needs. The resultant temptation to go to the commercial vendors for information needed by the Congress would make them dependent on others to do their tasks. It does not seem reasonable for Congress to give away its own information and then pay to use it (see Cloud, 1987, p. 22).

(3) Since congressional information is used for official purposes (such as in the courts), Congress has the responsibility to maintain the legitimacy and continuity of what emerges as "official" information. Private enterprise determines the viability of an information product almost exclusively on the basis of profit. Nonprofitable private information series may be dropped or interrupted should they become commercially non-viable. The recent discontinuation of the Congressional Information Service (CIS) regulatory data base is used to point out that private enterprise can not be counted on to provide continuity (CIS points out that the basic information still exists in traditional formats and that all their experience proves is that there was relatively little demand for the value-added product which made searching easier.)

(4) The Stevenson-Wydler Technology Innovation Act (1980) encourages government agencies to identify the technologies they develop which have commercial applications (Bracken, 1987, p. 65).

THE ARGUMENTS FOR A LIMITED ROLE FOR GOVERNMENT IN THE DISSEMINATION OF CONGRESSIONAL INFORMATION

(1) The primary purpose of the Congress is not in producing information. Becoming more of a disseminator, especially if it required changing formats or capabilities, would interfere with the primary purposes of Congress. With a wider range of "customers" congressional units would be pressured to balance the needs and demands of congressional users with outside users. The outside demands could overwhelm congressional information systems

and degrade congressional access to its own information.

(2) It is time that everyone realizes that information is not a free commodity, but has economic value.

(3) Government should not compete with private enterprise (see OMB circular 76 which makes this argument. Although such OMB circulars do not apply directly to Congress, it expresses a position many Members find it difficult to oppose. See also, U.S. Congress, House, Committee on Government Operations, 1982, pp, 3,40,72). In a related vein, it is argued that there is a tendency for government products, subsidized by tax dollars, to undersell the products of private enterprise and drive them from the marketplace. Unpredictability of government involvement discourages new ventures and innovation.

(4) Private enterprise has more motivation to enhance the value of congressional information in ways desired by the public. Competition between private sector participants increases public choice as to the types of information they want. Exclusive reliance on the congressional sources is dangerous in a democracy and this danger grows with the use of electronic information since in that format it is easier to control access and limit the ways in which it can be used (see U.S. Congress, House, Committee on Government Operations, 1986a, p. 2).

(5) While Congress has the responsibility to maintain an information "safety net" for all citizens, this does not necessarily mean direct government involvement in creating and disseminating the necessary information products. Government subsidies, information "vouchers", equipment grants, coordination of electronic information "gateways," etc. would each enhance access without getting Congress involved as a provider.

To Whom Should Congress Disseminate Its Information?

To the degree that government gets involved in active dissemination of information, the mechanisms of dissemination must be evaluated in terms of cost and effectiveness. The Depository Library System has long been seen as the primary method of assuring equitable public access to all government information including Congress' own. Recent criticisms of the depository system (see Hernon, McClure and Purcell, 1985, pp. 32-41), raise significant questions as to their continued capacity to provide the "safety net". With the impending arrival of new formats, the current depository libraries look even less well equipped to serve their traditional role.

New technology raises the question of whether the traditional library approach needs to be looked at anew. The tradition of a physical depository is less applicable with new technology than in the past. With new formats, users need different equipment and different types of support, with libraries becoming only one type of institution potentially capable of providing these components. Direct public access to congressional data bases,

while a ways off, is not out of the question.

To the degree that libraries see themselves as information providers and upgrade their staff, equipment, and resources utilization, Theodore Roszak is on target when he argues that:

> If computerized information services have any natural place in society, it is in the public library. There, the power and efficiency of the technology can be maximized along with its democratic access...Private, profit-making, computer-based information services...are not viable substitutes for what the library can provide (Roszak, 1986, pp. 173,175).

Granting the potentially important future role of libraries, policy questions still remain as to the appropriateness of the Depository Library System as currently organized, the degree to which Congress has the responsibility to upgrade depository capabilities, and the methods by which depositories will be able to take advantage of new technology.

A GENERAL VIEW OF CURRENT CONGRESSIONAL ACCESS AND DISSEMINATION METHODS

The individual wishing access to congressional information is faced with a number of different overlapping access points, procedures and potential problems. Some of the differences depend on the kind of information requested and the format, although tracing the access path for the same information across a number of requesters might well reveal significant differences in the level of effort required, level of satisfaction and even cost.

Proprietary Access to Congressional Documents

Many users want to walk away from their information search with the copy of a document in their hand. For them "information" is the proper committee report, copy of the Congressional Record, etc. For the sake of this general discussion we will use the term "document" generically to indicate a body of congressional information currently printed as an entity and avoid the arcane distinctions between "reports", "prints," etc.

DETERMINING THE EXISTENCE OF CONGRESSIONAL MATERIAL

The first step lies in determining the existence of a document. Aside from indirect methods such as following up on footnotes, journalistic reports and word of mouth, a number of more formal sources exist.

The most complete index of committee hearings, reports and documents is the privately published Congressional Information Service (CIS) Index. It indexes congressional material by title, committee and subject. Most often used in hard copy form in a library, the index is also available on-line via Dialog. Congress in Print is a weekly compilation of new congressional material

sold by Congressional Quarterly Inc. both in hard copy and via their on-line service. Specific documents (to be discussed later) have their own indexes.

DIRECT ACCESS POINTS

The Congressional Office

Congressional offices stand as "one-stop" information centers seeking out and procuring congressional documents and information for constituents from the document rooms and committees. An average of over 25% of incoming congressional mail (over 100 pieces of mail per week for each House Member and more for the Senate) are information requests (Frantzich 1986, pp. 11-13) and many of these lead to the acquisition of documents or the photocopying of sections.

Committees

Committees distribute their own hearings, committee prints, and reports. Under Gramm-Rudman budget cuts, the committees have been limited to 300 copies of each (as compared witt an average of 612 in 1985...U.S. Congress, House, Committee on Appropriations, 1985, p. 674). Users report that committees are now less willing to give away copies from their limited supplies.

Document Rooms

The document rooms were designed as the primary free direct access point to congressional material. Direct public access to congressional information through the document room has gone through considerable revision during recent years. In an attempt to cut costs after Gramm-Rudman, direct public access was shifted completely from the House Document Room (off statuary hall in the Capitol) to the Senate document room in the Hart Senate Office Building. Individuals were allowed one copy of up to six documents free, and a sales program was established for multiple documents or an increased number of documents. The sales program did not work well for a number of reasons. Individuals and organizations "in the know" acquired the lengthy documents free and only paid for the short ones, or they simply sent over a number of couriers to make multiple requests. The program was revised June 1, 1987 and both document rooms now serve the public directly under similar, but not identical distribution rules.

TYPES OF DOCUMENTS AVAILABLE THROUGH THE DOCUMENT ROOMS:
-Bills, Resolutions, Committee Reports Laws and Congressional Documents from the current Congress make up the bulk of the Document Rooms' stocks. Committee reports are on an "as available" status, while other documents are generally reprinted or photo copied as necessary if supplies run low. No committee hearings are distributed by the Document Rooms. Daily calendars of the House which include

listings of bills on the various calendars, committee schedules and "special orders" (requests to make guaranteed speeches) are also distributed. The Senate Document Room has recently taken over distribution of treaties from the Executive Clerk (see Table 2).

Table 2: Current Volume of Congressional Material Available Through the House and Senate Document Rooms

Under current procedures the following volume of materials is made available to the document rooms:*

	House Document Room	Senate Document Room
DOCUMENTS		
Senate Documents	75	200
House Documents	250	150
REPORTS		
Senate Reports	250	850
House Reports	700	400
BILLS		
Senate Bills (public)	250	850
House Bills (public/ introduced)	500	250
House Bills (public/ reported)	700	250
CALENDARS		
House Daily Calendar	200	xx
Senate Daily Calendar (distributed thrdugh Senate Post Office with no direct public dissemination)		

*SOURCE: U.S. Congress, House, Committee on Appropriations, 1986, pp. 670-674.

-Selected material from previous congresses is also available, with public laws retained for public distribtuon at least back to the 90th Congress.

CURRENT DISTRIBUTION METHODS: Although no precise records are kept, staffs of the House and Senate Document Rooms can estimate the number of people they serve each day and distinguish between congressional staff requests and those directly from the public. Most requesters ask for more than one document, but relatively few request the full free allotment of six. A high percentage of staff requests eventually end up in the hands of the public, with the congressional office serving as an information conduit.

Over the Counter Requests- The House Document Room serves approximately 300 individuals per day with over half being direct public requests.The Senate Document Room serves 400-500 requesters per day.

Phone Requests--The Senate accepts phone requests only from congressional staff and handles approximately 300 requests (generally for multiple documents) per day. Three "information lines" are manned to help requesters (public and staff) to trace the location and availability of documents. The House Document Room mans one public and two staff telephones from 9 a.m. to 7 p.m. with approximately 275 requests per day, per phone. Another 45-50 public calls are received on the overnight answering machine.

Mail Requests--The volume of mail requests varies with the day of the week and the visibility of congressional proceedings. Daily requests to the House Document Room vary from 125-250, with the highest levels on Mondays and Fridays. The Senate Document Room handles between 200 and 250 mail requests per day and report a growing demand over the last 20 years. One experienced staff member reported that 30 mail requests per day was considered heavy in the early 1970's.

Electronic Mail--The House Document Room provides electronic mail ordering for staff, with such a service in the talking stage for the Senate Document Room.

REQUESTER LIMITS: Current requester limits for the public vary with the method of access and to a smaller degree the type of document and requester. No attempt is made to catch requesters who abide by the letter, but not the spirit of the limitations (i.e. returning to the counter multiple times per day, sending in multiple letters, etc.)(see table 3).

Table 3 DOCUMENT ROOM LIMITATIONS

House Document Room Limits

Requesting Method:
- -Over the counter: 1 copy of six different documents
- -Phone Requests: 1 copy of three documents
- -Mail Requests: 1 copy of twelve documents

Document Exceptions:
- -House Calendars are given out (approximately 100/day) without counting against the limitations

Recipient Exceptions:
- -Press: 1 copy of six House AND six Senate Documents
- -Legislative, Executive and Diplomatic Offices: 3 copies of six documents

Senate Document Room Limits

Requesting Method:
- -Over the Counter: 1 copy of six documents
- -Phone Requests: Not available to the public
- -Mail Requests: 1 copy of six documents

Document Exceptions:
- -House Calendars (approximately 150/day are distributed without counting against the limits. Senate Calendars are distributed by the Secretary of the Senate's Office directly by the post office.

THE ABILITY TO HANDLE PUBLIC DEMAND: In assessing public demand, it is important to point out that Document Room distribution is largely for the more sophisticated observers of government. The average citizen, unlike the active interest group or law firm is unlikely to know about the Document Rooms. A number of commercial firms use the Document Rooms to systematically gather congressional material for redistribution. The counters are filled with messengers from these organizations rather than citizens coming off the street.

Document Room staff members indicate that anything which increases interest and awareness of Congress such as televised hearings or C-SPAN programming leads to additional requests. As one staff member put it, "We can often tell what hearings C-SPAN covered by the type of requests we get the next few days. People must sit down with a pad of paper and write down bill and report numbers."

With the reduced numbers of bills and documents available since Gramm-Rudman, the Document Room staffs report the need to xerox material for distribution as well as more unavailable material.

Government Printing Office Sales

The Congressional Publications Section of GPO determines which of the congressional materials will go on sale to the public above and beyond a standard supply of 25 copies of all hearings, committee prints, etc. Using past records of previous publications, suggestions by committees and obvious public interest they determine the number of additional copies that will be printed. In cases of extraordinary interest, they will reprint particular documents.

The Congressional Sales Office under the Superintendent of Documents has expanded its responsibility since Gramm-Rudman reduced the distribution of free congressional documents. Originally, the sales office offered a selective list (about 15%) of the highest visibility congressional material. It now receives a minimal number (25) of all congressional materials, with additional supplies of items identified as more likely to sell by the Congressional Publications Division. The sales office keeps items in stock for approximately one year and sells out of most items. Items are sold on a non-subscription basis individually over the counter, via the mail and over the telephone. Prices are determined by the size of the publication. The highest volume sales items are committee prints and hearings which can only be acquired directly from the committees free. A much smaller volume of bills, laws, committee reports and committee documents are sold since they are more widely available free from the Document Rooms.

Identifying congressional materials is a major part of access. The CIS index is the most complete source, but the hard copy version does not list items until a number of months after

publication. More immediate information is available through the Government Printing Office Publications Reference File (distributed in microfiche and on-line) Congress in Print (published by Congressional Quarterly Inc.) and through a daily recording of the Congressional Sales Office outlining new items (275-5250).

The Subscription Section of the Superintendent of Documents Office handles permanent subscriptions of government documents and has recently taken over subscription sales of electronic tapes of congressional documents. Yearly subscriptions to the electronic products are priced at $18,750 for the daily tapes of bills and $29,300 for the Congressional Record. Individual tapes of House and Senate Committee Reports and the Congressional Directory can be purchased for $125. There are currently 4 subscribers to congressional tapes:

CONGRESSIONAL QUARTERLY (Ross Evans 887 8500)
-Congressional Record and Daily Bills tapes

LEGI-SLATE (Jeremy Main 898 2300)
-Congressional Record,Daily Bills, isolated reports (Also The Federal Register)

LEGI-TECH (Gayla Schultz 543 9101)
-Daily Bills

MEAD DATA (Marcia Baugh 513 865 7933)
-Congressional Record

There have been only limited sales so far of individual hearings and reports. Each tape arrives with basic documentation and technical questions are handled by the Graphic System Support Division. The sales program by the Subscription Section only began July 1st, and an expanded advertising campaign in the works is expected to increase demand.

Commercial Sales of Congressional Documents

The Congressional Information Service (CIS) serves as the primary commercial source of congressional material. CIS offers the most extensive indexing and abstracting of congressional material, sells hard copy indexes and provides on-line indexing via Dialog. The CIS indexes have become the standard source and are used by GPO itself as a master list. CIS sells yearly microfiche subscriptions and individual microfiche subscriptions of bills, laws, committee prints, committee reports, committee documents and hearings.

CIS uses a variety of techniques for identifying and acquiring documents. For committee material, they deal directly with each committee, usually receiving the materials free. They send couriers to the Document Rooms daily to receive material they

have identified, but can not get from the committees. As a last resort, they purchase documents directly from GPO.

In a few cases, commercial publishers have taken advantage of the delay in the production and distribution of congressional material to commercially disseminate congressional material that would eventually become all or part of a congressional document. The most recent example was the printing of the Iran-Contra hearing testimony.

Electronic Dissemination of Congressional Information

A number of commercial data vendors are offering congressional products. Emphasis has been on the time sensitive material such as bill status and scheduling information. At least three vendors (Legi-Slate, Congressional Quarterly, and Mead) have, or are in the process of developing Congressional Record data bases and there has been some interest in electronic distribution of committee material. During the Iran-Contra hearings, Legi-Slate made available almost simultaneous full text searching of the testimony (see later case studies).

The market for electronic dissemination of congressional information has been dominated by interest groups and Washington representatives for large corporations. The fee structure for such services does not make them feasible for direct individual use (see table 4) College and university libraries are only just beginning to consider offering such services.

Table 4 COMMERCIAL VENDOR FEE STRUCTURE

The two major vendors of electronic congressional information sell unlimited use subscriptions. Clients purchase various backages of services and "mix and match" based on their needs.

LEGI-SLATE:

Basic Congressional Service -full text of bills -bill status -committee schedules	$9,500
Member Profile and Rating -Congressional Votes -Attendance -Member/district descriptions	$4,600
Congressional Record Online	$2,600
CRS Bill Digest Online	$2,400
Committee Reports Online	$2,400

CONGRESSIONAL QUARTERLY WASHINGTON ALERT SYSTEM:

FULL SERVICE *: Full text of Bills Schedules Bill Status CQ Weekly Report Released Congressional Documents Floor VOtes Voting Studies Member Profiels Congressional News	$8000**

*Unlimited use yearly subscription. Services are not sold separately, but less than unlimited service contracts are written.

**When the Congressional Record is added in 1988, this fee will be increased.

Indirect Access

TELEPHONE HOT LINES

Some congressional information is available regularly via telephone. The LEGIS office under the Clerk of the House provides bill status information over the phone or sends printouts covering both chambers. Recorded messages created by the party leadership provide scheduling information and can be dialed by the public. A number of interest groups (such as the Chamber of Commerce) provide recorded messages on current congressional news of interest to their members.

THE FEDERAL DEPOSITORY LIBRARY SYSTEM

Congressional documents are disseminated to the public through almost 1400 depository libraries. Table 5 outlines the frequency and format of current depository library orders for various congressional publications.

Most congressional material is avilable in dual format (either hard copy or microfiche). Current plans call for distributing future issues of the bound Congressional Record only in microfiche.

A major problem currently exists for libraries choosing congressional material on microfiche. There is a six month backlog in the distribution of microfiche reducing the timeliness of information for citizen receipt of relevant information.

Table 5 Current Volume and Dissemiantion Formats of Congressional Material Via the Depository Library System

Congressional Record (daily)	
Paper	942
Microfiche	307
Total	1249
Congressional Record (bound)	
Microfiche	1312
Congressional Record Index	
Paper	852
Microfiche	376
Total	1229
Serial Set (House and Senate Documents)	
Paper	402
Microfiche	717
Total	1119
Serial Set (House and Senate Reports)	
Paper	409
Microfiche	732
Total	1139

SOME GENERAL PROBLEMS WITH CURRENT ACCESS AND DISSEMINATION PROCEDURES

Assuming that equity and ease of public access tempered by the constraints of reasonable cost and reducing interference with the internal operations is the primary goal, a number of general problems are evident in the current procedures for making congressional information available.

Components of Equity

AWARENESS

Problem Definition: Equity of access is denied if potential users have no way to find out about the existence of the information they desire or if some users have easier ways to monitor and identify new products. While the user must take considerable responsibility for keeping aware, congressional policies should encourage the most equitable methods of increasing awareness. More comprehensive and timely indexing in readily available forms augmented by available technology would increase awareness.

TIMELINESS

Problem Definition: Equity of access is denied to the degree that some congressional information is not generally available when needed, or when some users receive the needed information significantly sooner than others. Selective on-line access to extremely time-sensitive information clearly advantages some users.

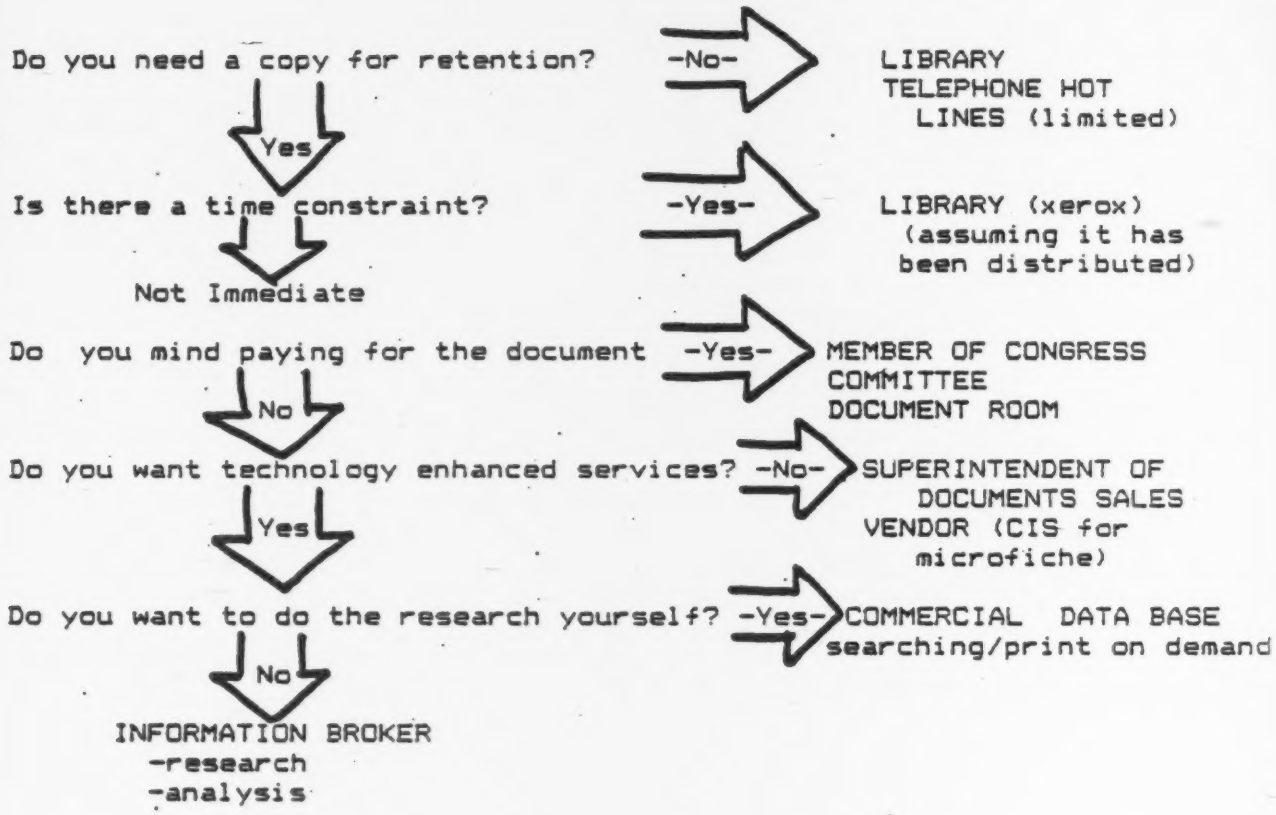
COST

Problem Definition: To the degree that the ability to pay determines who gets which information and in which format, equity is denied. Congress clearly cannot afford to give all citizens all information in the most technologically sophisticated format. In balancing public access and cost the emphasis should be on decreasing the gap between those who can afford access and those who can not. While attempting to close that gap, emphasis should be placed on determining the applicability of new access technologies to the most relevant uses of the information in question. If the ability to pay means that some users get information when they need it and lack of resources means that others never get the information or receive it after the time it is useful, Congress has the responsibility to narrow the gap.

An inherent problem in the current distribution process is that there are multiple access tracks. Not all tracks lead to the same information, provide it in the same form, nor at the same cost. While competition among sources is generally a good thing, sources of congressional information often do not compete on the basis of the value of their services, but rather reflect user knowledge. Individuals and organizations "in the know", know

their rights to free information (through their Members, from the committees, or from the Document Rooms), while less informed users often end up paying for a document (either through GPO or a commercial source) which they could have had for free. The information "rich" often end up not paying while the less informed do not get their due. Much of the problem stems from the fact that there is no widely known "decision tree" guiding users of congressional information from free to fee sources, and from basic to enhanced services (see Figure 1). Under current procedures, where on starts on the decision tree largely determines where one goes and what one pays. An individual aware of the Superintendent of Documents sales program, is not likely to be told that they could have obtained the document free and only had to pay if the free sources were depleted. Such redirection to a free source is even less likely with commercial firms. It is more likely that a potential user will be guided down the decision tree (from free and unenhanced to fee and enhanced sources), than be redirected the other direction. Since the fee and enhanced sources have more motivation to publicize their services, they are likely to be better known by users.

FIGURE 1 A GENERIC CONGRESSIONAL DOCUMENT ACCESS TREE



EASE OF CONTENT ACCESS

Problem Definition: To the degree that the format of particular information poses access barriers to some users and not to others, equity is denied. Physical access to some formats (computer tapes, disks, micro formats, raw data tables, etc.) means little without either the equipment and/or the documentation for their use. Even for more traditional textual formats, content access varies. The availability of search and retrieval aides (indexes, computerized searching, etc.) makes some largely impregnable material potentially useful. Most of the current aides are only available through commercial sources. If these aides are not equitably available, meaningful content access may be denied. Congressional policy needs to consider which of these aides are necessary for the meaningful use of its information and which are "nice, but not necessary." If necessary, polices must assure that they are widely available without discrimination on the basis of resources.

PUBLIC ACCESS CASE STUDIES

The following case studies focus on four bodies of information (the Congressional Record, Committee reports, scheduling and bills status) long accepted as important to make available to the public. For each body of information a rationale for public access will be outlined; a discussion of current production, access and dissemination procedures described; and future access and dissemination alternatives assessed. In each realm, emphasis will be focused on the short and long term implications of new production and dissemination technologies, especially as they relate to public access.

The question of electronic access to congressional documents and the efficient production of the traditional hard copy versions must be treated as largely separate issues. It is beyond the scope of this analysis to suggest comprehensive improvements in the creation of the hard copy document, and the issue will only be dealt with to the degree that current and planned production methods affect the timeliness or very existence of an electronic version.

Congressional Record Case Study

THE RATIONALE FOR PUBLIC ACCESS

From the very beginning, Members of the House of Representatives recognized their duty to carry out public business in the open and make available to the public the results of their deliberations. The Senate sat behind closed doors until 1794 wher it allowed journalistic reports on its proceedings (Everhart, 1910, p. 27). The new government relied on newspapers to print public laws and allowed journalists to record the debates. These newspaper reports were gathered together in 1834 as the Annals of Congress which provide abstracts of Congress' debates for the period 1789-1824. There is no Constitutional requirement that Congress publish its debates, only to "keep a journal of its proceedings, and from time to time publish the same, excepting such parts as may in their judgment require secrecy" (Article 1, Section 5, Clause 3). Rather than verbatim reports, the Journals of the House and senate were begun as, and continue to be, abbreviated listings of Congress's official actions and serve as the official record of what transpired. Congress authorized the printing and distribution of both House and Senate Journals beginning in 1813 (Relyea, 1985, p. 236). Until the 1860's printing was done on a contract basis with existing printers, often as a patronage payment to the newspapers supporting the party in power. The Congress took control of its own printing with the establishment of the Government Printing Office in 1861 (see Hernon, McClure and Purcell, 1985 pp. 3-5).

Timely publication of abstracted congressional debates began with the privately printed, but congressionally encouraged, Register

of Debates in 1824. However, but there was no attempt to make the reports verbatim. The switch to the weekly Congressional Globe, (1833-1873) - continued the practice of a non-verbatim, privately printed, report of debates. By 1851 verbatim reporting was the norm (see Schmeckebier and Easton, 1961, pp. 121-124 and Everhart, 1910, p. 29), with daily publication beginning in 1865 (Relyea, 1985, p. 236). Although privately published, Congress bought copies of its own debates from these sources. Congress took over the responsibility of recording and publishing its own debates in 1873 and the Congressional Record and has continued publication uninterrupted since.

A distinguishing feature of the Record is its timeliness. Its morning after the session delivery is a standard for the world's parliaments, approached by only a few. While some observers argue that the "revise and extend" privileges allowing Members to adjust what was said on the floor diminishes the historical legitimacy of the Record, it does represent how Members wish to present themselves publicly. This public presentation allows citizens a basis for evaluating the activities of their elected representative.

CURRENT PRODUCTION OF THE CONGRESSIONAL RECORD

Getting the Record from the Floor to the GPO

By virtually any measure, the capability of the Government Printing Office (GPO) to produce essentially a three hundred page book with high standards of correctness every night Congress is in session is a laudable achievement. The process becomes even more impressive when one sees the nature of the incoming material. While the session continues on the floor, messengers bring stacks of material to the GPO for keystroking. The material from the floor includes typed transcripts from the floor reporters who have taken down the debate verbatim, typed speech drafts submitted by Members, copies of bills and a disparate set of newspaper articles and other documents to be inserted in the Record. Far from being "clean" copies, much of the material has been edited by hand. Members have a right to "revise and extend" their remarks as taken down on the floor, or to insert an entirely new speech. These corrections often come in the form of margin notes, crossed out words and arrows changing the order of the text. The production of the Record is a process of "weaving and blending." Less than 40% of the material is gathered by floor reporters, with the remainder arriving in the form of speech drafts, corrections and documents to be inserted.

To add complexity, unlike a large newspaper of comparable volume, the Record works under a system where there are no firm deadlines for submission, the size varies from day to day and there is relatively little material developed ahead of time for insertion.

Everything arrives at the GPO in hard copy form and must be keystroked anew, except for the text of bills and resolutions, and recorded votes in the House which can be transferred from the

bill status (LEGIS) files. Approximately 56% of the text of bills arrives at GPO in electronic form. Although many of the speeches were created on word processors, and despite the fact that the GPO has the capacity to transfer 108 different word processing formats into their electronic file, electronic transfer of information has not yet become part of the Congressional Record production process. Some discussion has begun by a House-Senate-GPO task force (contact person:Liz Mackelheny, Secretary of the Senate's Office) to explore automation of the floor recording process. The use of a word processor, with its ease of text revision, seems like a natural application which might not only increase the efficiency of the hard copy production, but could also be transmitted electronically to the GPO for inclusion. Depending on the ease of file transfer, speech texts supplied by congressional offices could be included electronically. However, a number of logistical problems stand in the way of automating this stage of the process:

1. Members have become accustomed to making last minute hand written corrections on the hard copies of their speeches and the electronic version would have to be edited in accordance with their desires.

2. Some material from Member's offices--especially newspaper editorials and the like--is not available in electronic form, making it necessary to establish procedures for inserting such material into the Record at the appropriate spot. With the increased volume and variety of electronic data bases and the process of creating documents for insertion via electronic "cut and paste", it is likely that more and more offices will capture their insertions in electronic form and be willing to pass them on electronically.

3. The training and development of new procedures for Record Clerk and GPO staffs will serve as an initial barrier. Although highly skilled in the traditional procedures for creating the Record, current staffs have the normal fear of change and recognize a threat to their job security. Automation of the Record--as virtually all innovation in the information processing realm--is justified on the basis of efficiency. Efficiency often implies reducing the human effort and allowing reductions of staff committed to that task.

4. Currently, a significant portion of GPO staff time is spent ascertaining whether submitted materials fit the agreed upon format for the Record. Electronic submission--especially with imbedded printing codes (underlining, bold facing, etc.)--could increase the difficulty of editing the original documents. It may well be easier to cross out unacceptable underlining or make proof reader's marks in the margin to change a format than to go into a computer file and make such changes. This is especially true when a wide variety of equipment and word processing software is being

used.

5. Any change in the production process must retain the long standing Member right of "revising and extending" their remarks.

The effect of automating the pre-GPO Record production process on public access would be minimal. Next morning delivery of verbatim debates does not really need to be improved upon. No one has suggested "real time" public access to the "rough draft" version as it moves from the floor to the GPO. Anyone wanting such monitoring can now turn to the televised proceedings. If real time access were to be instituted even partially electronically, there would be significant gaps. A considerable amount of material not now available electronically would have to be keystroked somewhere in the process. Until this material was inserted, the Record could in no sense be considered complete. Last minute corrections to the electronic submissions would also have to be taken into account. After giving a speech, some Members are accustomed to carrying it around for a number of hours mulling over the corrections they wish to make before printing. Either such practices would have to be curtailed by requiring more timely submission, or the electronic version would have to be kept in limbo until the hard copy corrections were inserted. To the degree that providing GPO with a larger portion of the Record in electronic form would speed up the process of getting the completed document in final electronic from, the timeliness of public access to that electronic version would be increased.

Creating the Electronic Version and Printing the Record

The purpose of creating an electronic version of the Congressional Record emanates from the goal of more efficiently creating a photographic plate from which the hard copy version will be printed, rather than increasing or inhibiting public access. Any access to the electronic version is clearly seen by the GPO as a byproduct which in no way should interfere--or even be taken into account--in the production process. Any potential user of the electronic version is expected to take it "as is" and decipher its unique format and imbedded printing codes (designed to denote the beginning of bold face type, spacing, etc.).

The process of composing the Record electronically began in 1980 with a pilot project involving the House and Senate Journals. In 1981, the House portion of the Record was converted to electronic photo composition and the Senate process was transformed in 1982 (U.S. Congress, Senate, Committee on Rules and Administration, 1984, p. 19).

As material comes over from the floor, it is marked for identification purposes and edited for proper format. It is then keyed into the data base. Pre-stored information (such as regularly repeated statements and bill texts from the LEGIS system) are inserted. Proofreading of the initial input is stored

in the electronic data base. Since all sections of the Record do not arrive at the same time or in the order it is to be printed, assembly of the final document is required before a hard copy print is created. The hard copy photographic print is then proofread again for errors. Given the short production time allowed, rather than correcting the electronic data base before creating a printing plate, corrections are "stripped in" by pasting a new hard copy line over the one that is in error. By shortly after midnight, the presses begin running the hard copy version. Corrections to the electronic version have a low priority and are often not made until the next day.

Microfiche copies of the Record are produced from the hard copy versions through a contractor and distributed by GPO. Current delays in the microfiching process reduce the timeliness of congressional docuemtns disseminated in this manner.

The Congressional Record Index is currently created largely by hand (see later discussion of search and retrieval pilot project) and published biweekly. The only yearly index arrives with the bound Record.

The bound copy of the Record involves a second round of revisions and corrections with new photographic printing plates created from a corrected version of the daily Record tape. Bound Records are currently a number of years behind the printed versions. The 1981 and 1985 bound version will be out during 1987. The 1982-84 bound version will be delayed because of changes in technology.

DISSEMINATING THE RECORD

Hard Copy and Microfiche Dissemination

The daily Congressional Record is one of the most widely distributed congressional documents with over 22,000 copies distributed daily (down from over 40,000 a decade ago). All distribution is done by subscription with no procedure for individual sales. The vast majority of copies are sent free to individuals and organizations required by law or designated by Members of Congress. The Record is considered a "dual format" publication and recipients can specify either the hard copy or microfiche format. Each Member of the House is allowed to distribute 25 copies of the Record and each Senator 37 copies. The law indicates (U.S.C. 44 section 903) that Members' designated copies should go to "public agencies", but the GPO only informs Members of recipients who do not seem to fit the requirement and follows their wishes if they want to keep them on their list. Because of lower costs, microfiche copies count only 1/3 of a hard copy in establishing Member distribution quotas. Table 6 Outlines the current distribution pattern. Current revenue from sales of the Record is $675,100 annually.

Table 6 Current GPO Distribution of the Congressional Record (August 198)

	Microfiche	Paper
FREE DISTRIBUTION		
Designated by Representatives	676	7765
Designated by Senators	175	3147
Government Departments	1	2788
Joint Committee on Printing (additional distribution to Cong.)	18	2002
Depository Libraries	306	942
House of Representatives (by law)		680
Congress (officials)		301
Press		202
Ex-Members		182
Government Agencies	25	174
Governors, Independent Establishments	3	40
Courts		36
Public Printer		31
International Exchange	83	
SALES		
Superintendent of Documents (subscriptions)	100	2860

Current revenue from sales of the Record is $675.000 annually.

A number of private firms distribute microform and hard copy versions of the Record. Since congressional documents can not be copyrighted, there is no need to purchase or gain the rights for such duplication making it difficult to monitor all the commercial outlets. Table 7 outlines the current major sources of the Record through sales.

Table 7 Microform and Hard Copy Sources of the Record for Sale

SOURCE	VERSION	COST
University Microfilms	Bound and Indexed Version	$406/yr (film) $204/yr (fiche)
William S. Hein Co.	Daily	$390/yr (fiche)
	Bound	$390/yr (fiche)
	Bound	* (paper)
Government Printing Office		
	Daily	$225/yr (paper)
	Daily	$118/yr (fiche)
	Bound	$118-415/yr (fiche)**

*They will sell the bound Record in paper now that GPO will be distributing it only in microfiche using GPO's microfiche pricing scale.

**depending on the number of pages.

Electronic Distribution of the Record

During 1986 and 1987 there was considerable debate, especially within the Joint Committee on Printing, over the electronic dissemination of the Congressional Record tapes. In letters and testimony supporters of such sale argued:

> I see no justification for delaying the sale of the tapes...To take the opposite position is to suggest that the government ought to be able to determine the form in which public information is made available to the public (letter from Senator Albert Gore to Senator Charles Mathias Jr, September 18, 1986).
>
> The public has a right to be able to access the public information in electronic form, whether or not the GPO seeks to provide such services, it seems inappropriate for it to monopolize the field (letter from Senator Dennis Deconcinni to Senator Senator Charles Mathias Jr, September 18, 1986).
>
> The risk of government control of information is reduced by the sale of computer printer tapes (letter from Senator Ted Stevens to Senator Charles Mathias Jr, September 18, 1986).
>
> [computer access would] enhance our knowledge, and improve the accuracy, timeliness and comprehensiveness of the "public's right to know" (letter from Senator Charles Mathias Jr. to the Public Printer, October, 1986).

Those cautioning a "go slow" process argued that the role of the GPO needed to be protected and that dissemination of the electronic version should not undercut the ability of the GPO to provide similar services. Concern for the GPO reflected both an interest in maintaining it as a viable disseminator of congressional information and the recognition that any decline in GPO activity would have significant personnel consequences "seriously affecting the present GPO workforce" (memo from JCP staff director to Senator Charles Mathias Jr., June 11, 1986). Senator Wendell Ford (D-KY) pointed out that by distributing such tapes "we are going into competition with ourselves" (Senate Committee on Rules and Administration Business meeting, July 24, 1986). Since the GPO did not yet have the necessary search and retrieval software, it was argued that a delay was warranted. Some participants felt that commercial availability of this information would advantage those groups and individuals with the resources to pay and undermine the principle of equitable access. Others argued that the information on the tapes could be misused (see Cloud, 1987, p. 22) and that it might be inappropriate for Congress to be subsidizing commercial enterprises by giving them such valuable information for resale. It was also pointed out that Members might want to ask the question "Does Congress wish to afford those who wish to influence Congress and the public greater ability to do so by providing an electronic tool that

facilitates that effort?" (memo from JCP staff director to Senator Charles Mathias Jr., June 11, 1986). The issue became embroiled in the internal politics of Congress as outgoing JCP chairman Senator Mathias (R-MD) gave the approval for distribution while incoming chairman Representative Frank Annunzio (D-NJ) felt that proper clearances with the House over its information had not been followed and that not enough thought had gone into defining just which information would be disseminated in electronic form and which would not. On legal grounds, those attempting to slow down the decision process argued that electronic distribution may be illegal, citing that title 44 only allows the Superintendent of Documents to sell something which is a coherent "document" and no one has defined when a computer tape fits this criterion. Procedurally it was pointed out that under current procedures the corrected electronic version of the Record was not completed until a number of hours (and in some cases days) after the distribution of the hard copy version. Contemporaneous distribution of the electronic version could mean that recipients would receive an inaccurate version.

The legal issue was sent to the American Law Division of the Congressional Research Service for analysis in early 1987. They concluded that 44 U.S.C. section 1708 which governs the sale of government publications to the public does not specifically authorize the sale of computer tapes, but such applicability would not be expected since the statutes were written well before the arrival of this new technology. If the tapes were not considered documents or publications but rather "reproducibles" (the equivalent of printing plates which had a long history of distribution), they would come under 44 U.S. C. section 505 which also does not specifically include computer tapes. They concluded though that "reading these statutes broadly so as to authorize the sale of computer tapes is arguably consistent with certain policy considerations which favor public access to government information" and "would be supported by the historical practice of GPO selling similar tapes" (American Law Division, 1987, pp. 3 and 6).

On June 17, 1987, the Joint Committee on Printing passed the following resolution and directed the GPO to establish the necessary procedures to carry it out:

> WHEREAS, the Joint Committee on Printing is empowered by statute to establish policies to promote the economical and efficient distribution and sales of Government publications, and
>
> WHEREAS, the Joint Committee on Printing has long fostered policies and practices that promote the free flow of Government information to the public, and
>
> WHEREAS, substantial amounts of Government information are being produced in electronic formats which facilitate the free and ready dissemination of information,

Be it therefore RESOLVED, that Government publications, available for sale to the public by the Superintendent of Documents and produced in electronic format, shall be treated the same as paper and microfiche for purposes of sale to the public, and

Be it further RESOLVED, that the Government Printing Office is directed to sell Government publications in electronic format in accordance with law and the instructions of the head of the Government entity, including the Legislative Branch, issuing the publication and pursuant to the provisions of section 1708 of Title 44 of the U.S. Code, and

Be it further RESOLVED, that such Government publications in electronic format be sold only after all due care is taken to ensure the accuracy of the information.

Tapes of the full Congressional Record became available on July 1, 1987 (although some vendors had been given earlier tapes and had begun purchasing Senate tapes in order to understand the printing codes and try out their software). Individual tapes are priced at $175 and yearly subscriptions at $29,000. The distributed tapes are equivalent to the printed copy with all the "stripped in" corrections made. The delay in corrections means that there is a 24 to 72 hour wait for the corrected tape.

Currently three commercial data vendors (Legi-Slate, Mead Data, and Congressional Quarterly) have purchased subscriptions and are in the process of creating software to interpret the printing codes and provide searching capability. Legi-Slate is the most advanced, having experimented with the Senate version of the Record and distributed it to customers. Their product is available to subscribers while going through revision. Congressional Quarterly intends to make it product available at the beginning of 1988. Both Congressional Quarterly and Legi-Slate are subscription services, charging one yearly fee for unlimited searching. Mead Data Central intends to add the Record to its Lexis-Nexis family of data bases during the second quarter of 1988. It will charge a connect time fee (see table 4).

Although experience is limited, vendors using the Record tapes express some initial frustrations:

1. Distribution procedures are not well established and there is no firm pattern as to when the corrected tapes will be available. If the approval for distribution does not come in time, or if the tape is not available before the once a day GPO mail rounds, the tape can not be picked up until two days after the session. Users dependent on immediate access find the inconsistency in availability frustrating.

2. Tapes often arrive mis-marked (i.e. "Senate #2" rather

than "Senate #1") requiring careful checking of content.

3. There is no documentation for the tapes, requiring the user to decipher the printing codes. Changes in printing codes or other format are not transmitted to users in any organized manner. Changes in printing codes can "blow a whole program, and we have to find the problem by trial and error." While some useful relationships have developed among technical support staff, there is no comparable method of coordination between administrative and policy level staff. The GPO takes the position of—a bit begrudgingly selling the tapes and then "washing their hands" of them. As one vendor put it, GPO still does not view us as a valued customer deserving tope rate service."

4.At least one vendor complaionted vehemently that "GPO printing codes are sub-standard. The same code can mean a nubmer of different things depending on the context. This is unnecessarily confusing."

5.A minor annoyance stems from the GPO policy of not accepting returned tapes, making a difficult storage problem over time.

It is too early to tell the commercial value of the electronic Record. Vendors are optimistic about public interest, and although very closed mouth about number of subscribers and usage, are encouraged by initial interest. While the vendors sell primarily to interest group subscribers, there is harder evidence in terms of interest in the electronic version of the Record in the library community. The Congressional Record on-line was the number one electronic data base mentioned in a survey of Depository Libraries in 1983 (U.S. Congress, Joint Committee on Printing, 1984, p. 11).

Within Congress, and largely unaffected by the sale of tapes, the House Information System (HIS) has a Congressional Record pilot project up and running in thirty House offices. Vendors wait for the corrected version of the Record which is usually available after a two day wait, while HIS puts up the uncorrected version (carefully marked as such) until the corrected version is available.

The Challenge of Searching the Record Electronically

Mere availability of the full text of the Congressional Record on tape would mean little if it were not for the search and retrieval capabilities which accompany it. A major limitation of using the Record in its current form is the limited indexing and the difficulty of finding material.

The Record reflects the particular logic of floor proceedings rather than the type of hierarchical logic a database designer would create. In recording the flow of events as they happened--

or as Members would have liked them to happen--it is not always easy to link logically associated material together, even in the printed version. This particularly true in the Senate with its much looser set of debating rules, debate on one topic, or by one Member is often interspersed with material irrelevant to the discussion of interest. A searching technique must provide the user with enough information to put the word, phrase, or indexed topic into context. Additionally, printing techniques (such as boldface) and graphic characters (such as the "bullet" to indicate material not spoken on the floor) impart significant information which would be lost through a process which simply searched the literal alphanumeric text.

Similarly, users of the Record have become familiar with particular graphic clues in their search of the hard copy Record. For example, the "squashed diamond" between identifiable debate segments serves as a starting and stopping point for hard copy users.

A major problem with creating search and retrieval capabilities for the Record is the size of the database. A key definition involves determining the size of the "document" to be searched. While one could define the entire session's Records as the document, searching would be time-consuming and cumbersome. On the other hand, defining too small a unit (paragraph or page) limits the ability to scroll up or down the document to see the material in context.

COMMERICIAL SEARCH AND RETRIEVAL CAPABILITIES: The searching capabilities of the current software varies considerably.

Legi-Slate has created an elaborate scheme for defining differing segments of the Record for searching in order to redeuce the size of the data base. Users determine whether they want to search within "debates", "extensions of remarks", "scheduling information" etc. The software provides full text searching of the Record within the various types of documents, allowing Boolean logic and specified delimiters (i.e. on/after or before a particular date, association with a particular Member, etc.) to limit the number of "hits". When viewing the desired "hit", the user sees the desired material in context by being given a few lines above and below that with the target text. With the pointer directly in the text, the user can scroll up and down to determine the context. When the desired documents have been discovered, they can be linked together for viwing, analysis or printing.

The Congressional Quarterly system is still in development, but will define the "document" as "larger than paragraphs, but smaller than the entire Record". Full free text searching will be allowed within each document.

The proposed Lexis system will have full text searching by words and word proximity as well as a "pseudo key wording" with a limited vocabulary such as bill names, Members names and bill

numbers. A search will lead you to a particular reference and allow you to scan up and down the document. The document definition is still under consideration but it will be larger than the paragraph, and probably smaller than the full day's Record because of the size of the data base.

IN HOUSE SYSTEMS: The Library of Congress provides search and retrieval of Congressional Record abstracts under the SCORPIO system. The abstracts can be searched by keywords, Member names, date, etc.

The House Information System (HIS) has developed a full text retrieval system now going through pilot testing in thirty offices. The HIS system uses STAIRS programming which creates a separate data base made up the chosen "hits". While the number of hits can be limited by Boolean logic and other delimiters, the user is limited to viewing only the paragraph in which the hit occurred. While full text searching is possible, full text viewing does not follow directly from the search. The search process can be viewed more as a bibliographic search requiring the user to either refer to the printed version, or use a separate process to search the Record by page. Member offices in the pilot project have been using the system largely to collect references to their Member's activity and more conveniently develop a list of segments to be xeroxed or printed.

The GPO has let a contract to Data Retrieval Inc. to modify its search and retrieval software used in a number of state legislatures for the Record and eventually other congressional material. It is planned to be used first for automating the indexing procedure in order to create more frequent and complete indexes. Its full text search and retrieval capabilities are designed to help the GPO handle its special order printing needs rather than for supporting direct public access. The GPO is often asked to excerpt and print particular speeches or everything a member said during a particular time period. Currently this requires the Member's staff to find and identify the material. Once found, new photographic plates are printed from the hard copy or the material is re-keyed in from the hard copy before making a plate. Electronic searching would provide print on demand capabilities, thus reducing the demand on Members' staffs to find the desired material and reduce the redundancy in the printing process. The arrival of sophisticated searching capabilities is not expected to have any direct initial impact on public access, although it may encourage more members to have the Record searched with selected material being distributed to constituents. Public printing on demand was not excluded, but was not clearly part of the initial goals.

Some concern has been expressed that it makes little sense for Congress to start late in developing search and retrieval capabilities and to duplicate existing services which could be probably be purchased for less than the development costs of a new system. Congress' desire to be able to control its own

information and to guarantee a reliable source of information in the form they need itigated against relying on an outside vendor. It was felt that if Congress relied on a vendor for these services it would become just another customer with little control over the content or continued existence of the data base. While the contracting process did not close the door to vendors currently putting the Record on-line, the desire of Congress to have proprietary control over the software scared them off. The current plan is to have the GPO system fully operational for the beginning of the 101st Congress, with pilot usage during this session. In the Senate, Members and staff have recently been given permission to purchase outside data bases while the LEGIS system is being improved and the Record searching capabilities are developed. Many Senate offices are purchasing those services which either now, or in the future, will have the Record on-line. This will allow an interesting test of the commerical systems relative to the one developed for the GPO. The House has recently gone the opposite direction, denying any new subscriptions to outside data bases which duplicate those offered by HIS, although previous subscribers will not be cut off. As with most database and software creation in Congress, there was little serious discussion of a cooperative effort with HIS which already has a search capability in hand.

The Congressional Record Index

If one assumes that the hard copy of the Record will disappear, a highly unrealistic assumption, a discussion of a hard copy index is irrelevant in an age of electronic full text search and retrieval. The use of new technology in relation to the Index involves facilitating the production of a more timely and complete hard copy version, rather than a potential replacement of the hard copy.

THE CURRENT INDEX: Currently the Index to the daily Record is published as a separate document every two weeks and distributed to subscribers along with the Record. The only cumulative index is included with the bound Record. The lack of a contemporaneous and cumulative index is a major limitation to searching the Record. The first priority for using the impending search and retrieval software will be in automating much of the indexing process and providing the capacity for more timely indexes. Indexing cannot be completely automated, since indexers must still insert textual material and use human judgment for placing material in context, but much of the routine activities can be facilitated. The ultimate goal is a contemporaneous daily index, either included in the Record or published as a separate document a few hours later. Currently the indexers wait until the next day to begin indexing. To some degree working procedures could be adjusted to have indexers work with the material while still in the production stage, but the full index still must wait until after the hard copy production is complete. A decision has not been made as to whether the electronic version of the Index will be available on-line and/or whether it will be subject to sale to the public.

EXISTING COMMERICAL INDEXES: A number of hard copy indexes of the Record are available commercially in various formats. The Congressional Record Scanner (Congressional Monitor) indexes an edited outline of the Record ($180/yr.). Capitol Services Inc. publishes CSI Congressional Report giving a daily summary of the Record with a subject index, and Congressional Record Abstracts which has summaries of bills, floor actions, and participation in debates. An electronic version of Congressional Record Abstracts is available through Dialog for full text searching.

Improved indexing capabilities will have a differential impact on the public. For individuals with access to full text searching, indexing will be largely irrelevant since they will be able to search more completely and precisely using their on-line access. For individuals limited to hard copy access, indexing improvements could narrow the content access gap which is rapidly broadening by the availability of full text searching. Users of indexes are always limited by the indexing strategy and the precision and quality of its application, but a more complete and timely index is clearly better than the current situation. Given the choice between full text searching (assuming necessary searching skills) and a hard copy (or even electronic) index, few individuals would choose the hard copy. In the near term, though, only a small portion of the population will have the choice and improved hard copy indexing of the Record will serve the goal of public access.

GPO FEARS AND THE POLITICAL CONTEXT

The above developments cause some concerns both within the GPO and among those who value its existence and services. Any assessment of the current situation and future options must take into account these concerns.

1. Impact on Hard Copy Sales: The GPO currently produces over 22,000 copies of the Congressional Record daily, which make up a significant portion of their printing effort. There is considerable fear (especially within the GPO and from some quarters in the Joint Committee on Printing) that the availability of the Record in electronic form could lead to reduced sales.

Others (especially the vendor community) argue that easier access to the material in the Record via electronic searching would increase interest in it and encourage more groups and individuals to subscribe to the hard copy. This argument asserts that the limited and belated indexing of the current document and the almost incomprehensible format discourages use of the Record as a primary source, encouraging those monitoring legislation to go to other documents and commercial services. The pilot test at HIS with electronic access does not indicate an abandonment of the hard copy (although it may be important to note that these congressional offices receive the Record at no cost). Users of the electronic version use the searching capabilities and then

go back to the hard copy sections identified through the search process to make copies for the files or for distribution. When HIS has its full capacity "cut and paste" utilities working (allowing users to pull out sections from various data bases, reassemble them, and distribute them electronically), more direct use of the electronic Record material is likely. Distribution of Record material outside of congressional office local area networks, though, will still require access to the hard copy.

Experience outside the HIS pilot is more limited since electronic distribution of the Record by vendors has just begun. Their meetings with clients indicate that electronic access to the Record will augment, not replace the hard copy. Experience in other realms indicate that when hard copy documents were translated into electronic form sales of the hard copy did not go down, and often increased.

In general, the superior "portability" of hard copy documents to the widest range of users and the fact that most people feel more comfortable using hard copy documents mitigates against any wholesale move to the electronic version as a replacement for the hard copy. For the near and middle range term at least, electronic access is an enhancement not a replacement.

2. The Impact on Jobs: If one assumes that the Record volume will decrease, the GPO could face some reductions or revisions in its work force. Unless GPO begins receiving a significant portion of its Record input from the Congress in electronic form, there is little room for reduced effort up to the point where the electronic version has been turned into the photocomposition printing plates. Any reductions would occur at the printing and distribution stages.

3. Reduced Income: Sales of the Record currently bring GPO $675,100 in revenue. Since the bulk of the costs are fixed and not dependent on the number of copies printed, any reduction in volume would be directly reflected in reduced income. Conversely, should the electronic Record encourage additional copies, income would increase without significantly increasing costs. At $29,000 per year for the electronic tapes, each of the three current vendors pays the equivalent of over 125 hard copy susbscriptions which must be factored into the financial equation. Distribution is the tapes is significantly cheaper than supporting 125 subscriptions.

4. Institutional Rivalry: GPO fears and sensitivities are reflected in their relationships with other participants. The vendors who currently purchase the Record tapes are tolerated but not treated as valued customers. HIS is seen as a competitor. Despite the fact that HIS has developed a computerized searching capability for the Record, there was little serious discussion of the GPO using the HIS software instead of going out on their own to purchase in-house software. A number of HIS staff reflected that the tension between these two government agencies was "almost electric". HIS staff members point out that "we know how

much the GPO dislikes us because our printing requests always go to the bottom of the pile."

5. Responsibility for Content: Both Congress and the GPO express considerable concern for the content and accuracy of all government publications, as they well should. The major reason for the delay in conveying the electronic tape of the Record to outsiders is to allow the GPO to insert the corrections discovered in the final proofreading. While it could be argued that it would only take a minor change in work procedures to correct the electronic version simultaneously with the photocomposition version, thereby making the electronic version available at least twelve hours earlier than currently, there are broader issues. First, the daily version of the Record is produced for immediate consumption by the Congress and is succeeded by the bound copy permanent version produced a number of years later. This final version includes a new set of "revisions and extensions of remarks" by members, as well as grammatical, spelling and factual corrections. These corrections average about 5% of the Record content (GPO estimate). Once the GPO has distributed the tape of the daily edition, it loses control of its use. There is currently no procedure for exchanging an incorrect or incomplete daily version for a corrected bound copy version of the tape. Currently vendors are little interested in the long term archival use of the Record since the immediate demand of their customers is for very current information for following the flow of legislation. In the long run, though, the archival use of the electronic version of the electronic Record could become even more important. Since the Record has been established by the courts as the primary source for determining legislative intent, it is used widely by the legal community and government agencies in interpreting laws. The ability to search multiple issues--or even years-of the Record electronically would be a boon to such research. A real question evolves when the permanent electronic versions saved by vendors do not match the bound hard copy versions.

A second consideration involving the content of the Record stems from the flexibility computer searching provides. Search and retrieval software allows "cutting and pasting" together segments of the record in a manner which portrays the content differently than that intended by the Congress or presented in the hard copy version. The ability to line up all recorded votes, or all of a Members statements side by side gives a different impression than is the case with seeing everything in context. While such editing has always been possible, existing technology makes it so much easier, inviting expanded use.

PUBLIC ACCESS TO THE RECORD--THE CURRENT BOTTOM LINE

(1) The Right to Electronic Access to the Record: The Congressional Record almost by definition is a public document. No one opposes public access to the hard copy version, nor access to the electronic version in principle. Concern has arisen in

three realms:

-Provision of electronic access should not interfere with the main purpose of the electronic version--the printing of the hard copy version.

Current distribution procedures work on the basis that the electronic version of the Record is purely a by-product of the printing procedure and vendors have no right of special treatment. If vendors request GPO support in deciphering the tapes, provision of updates to match the bound version and/or want the electronic version at the same time the hard copy version is being prepared, some procedural changes will have to be made and some commitment of staff time will be involved.

(2) Informatin "Haves" and "Have Nots": While neither the GPO or HIS (the only two institutions with current or impending plans to have a searchable electronic version on-line) have expressed any interest in directly selling or giving data base access to the public, some of the participants indicate a concern over the equity of public access should it be controlled by the private sector. Electronic access to the Record alone through vendors is well beyond the resources of most individual users. Added to the direct costs are access to equipment, basic computer literacy and specific training in searching techniques. All this implies that electronic searching and retrieval if only available at a fee through private vendors will exacerbate the gap between information "haves" and information "have nots." Purchase of specialized legislative data bases is almost exclusively the domain of organized interests rather than the individual citizens. Granting the organized interest group bias in likely availability may overshadow one democratizing aspect. Well financed groups have always had an information access advantage over less well endowed groups through their ability to use labor intensive methods (5 or more researchers searching the hard copy Record) of information retrieval. The marginal cost for a small or medium sized group to purchase a data base is considerably less than the cost of increasing the size of their staff to compete with the well endowed group.

Those components of the public who will be most disadvantaged by solely commercial access are the small and less organized groups without even the capital to purchase the data base, and the individual policy-oriented citizens and academic researchers who although being able to use their traditional methods on the hard copy version will simply not be able to compete with data base users. If the citizens' right to know means anything, such a permanent disadvantage makes it meaningless. Many argue that government has the responsibility of being the information "safety net" for those who are passed by in the typical access process. Considerable debate ensues over the degree to which government should provide equitable access versus simply providing access.

SOME ACCESS AND DISSEMINATION OPTIONS FOR THE FUTURE

Criteria for Evaluating Access and Dissemination of the Record

The same criteria used to evaluate dissemination formats in general (see earlier discussion) can be applied with more specificity to the characteristics of individual bodies of congressional information. While certain criteria (such as ease of use, need for user support and the stability of the technology) vary little across the different bodies of information, the following are more application specific.

TIMELINESS: The Record, by its very nature, is used in an "after the fact" method making timeliness somewhat less important than for information used to anticipate congressional action (scheduling, bill status, etc.). Two types of users of the Record have different timeliness needs. Groups and individuals wishing to participate in the policy process by assessing and reacting to the actions of their elected officials need relatively contemporaneous information, while those attempting to reconstruct past actions can wait longer for access. The fact that Congress requires its own copies to be delivered the next day reflects its perceived need for a timely delivery and should serve as a guideline for public access.

COMPREHENSIVENESS: As the intended verbatim record of the Congress, the Congressional Record would be a greatly diminished value if it lacked comprehensiveness.

SEARCHABILITY: One of the major complaints about the present format of the Record lies in the difficulty of efficiently searching its content. A key goal for the application of new technology is to make content access to the Record for efficient and feasible.

COSTS: The Congress already has a high enough regard for the importance of maintaining access to the Record and actively disseminating it that even increased costs in making it more available would face less opposition than similar costs applied to other bodies of congressional information. If new applications are viewed as a replacement, rather than an add on, costs could be reduced. There is some potential for using new technology to produce new information products from the Record providing some cost recovery.

ARCHIVABILITY: The sheer volume of the Record makes it difficult to archive. In printed form it takes up considerable space and document security can be a significant problem.

FLEXIBILITY: The current hard copy version of the Record is particularly inflexible. While users generally want a full picture of a debate on a particular subject or the actions of a particular Member, these are scattered throughout the text and over a number of different documents. The ability to use new technology to "cut and paste" a tailored document would greatly

increase the usability of the material in the Record.

PUBLIC ACCESS: The overall goal of providing equitable public access to the Congressional Record is more of an absolute given than for any other body of congressional information. Public access to congressional information is virtually meaningless without such access.

The unique relation of the Congressional Record to the above criteria suggest a number of formats and dissemination techniques.

Format of the Record

For the foreseeable future it is inconceivable that the Congressional Record would not be published in hard copy format. New formats for search and retrieval will augment and not replace the hard copy version. The appropriate format for the Record will vary significantly depending on user needs. For individuals monitoring current events in Congress, on-line access is necessary because of timeliness and searchability. The size of the Record data base reduces the efficiency of on-line searching for historical records. The bound copy of the Record (hopefully published in a more timely fashion through the use of new technology) is an excellent candidate for CD ROM dissemination since it is a static document of considerable length. Since creation of a disc only makes sense when enough material has been produced to largely fill it, waiting 6 months or more for a large enough block of daily Record material would reduce, rather than increase timeliness. With the appropriate search software, CD ROM would provide content access and have advantages in terms of cost and ease of archiving. Assuming that each CD would hold 100,000 pages, one year of the Record would easily fit on each disc. with production costs of $5-7000 per master and $5/ disc, discs could be distributed to all Depository Libraries for less that $75,000. The current cost for distributing microfiche copies is a minimum of $236,000 (assuming the lowest current price of the microfiche copies of $180 and the current distribution of 1312 sets--see tables 5 and 7). Print on demand capabilities using CDs could satisfy the need for hard copies. If it is assumed that hard copies (or microforms) would still be sent, the price is still relatively modest, given the advantages in searching. The disadvantage of CD ROM at this time is the lack of standardization and the limited distribution of equipment. There may need to be a program of equipment grants if it is felt that the hardware will not be acquired directly by the libraries in the same way microform readers were. CD ROM poses a potential problem to public access if users are intimidated by the technology or libraries use the format as a method of limiting access by requiring staff mediation. Initial library experience with CD ROM indicates that it can be directly used by patrons relatively easily without significant staff intervention.

Dissemination Alternatives

Considerable improvement in the dissemination of the printed versions of the Record would be made if users could purchase individual copies or tailored products. The current procedure of only allowing subscription access to the entire Record does not make sense for all users. Increased interest in Congress due to C-SPAN may warrant considering the policy of selling individual copies of the Record by mail and reinstating sales in the Capitol building. The impending GPO print on demand capacity could be directed to serve the needs of public users wanting a particular debate or a collection of materials from the Record. The viability of such a service would require public access to improved indexes or preferably direct access to electronic searching software. The GPO could develop an entire new producte line of "standard" tailored items ("the collected speeches of xxx," "Energy Debates in the 101st Congress", etc.).

Dissemination of the Congressional Record does not cry out for a radically different method of physical access, since hard copy (and to a lesser degree microform) availability is desired. The challenge for public access given new technology lies in providing the public the benefits of electronic content access, particularly for searching the Record.

The obvious solution lies in utilizing the well established Federal Depository Library system to expand its role and become a distribution point for electronic congressional information. At the same time, it must be remembered that depository libraries represent only a small percentage of libraries and new policies shoud take into account methods of giving all libraries access to technology enhanced congressional information products at a reasonable cost.

The Depository Library community has clearly identified electronic access to the Congressional Record as one of the key bodies of information in which their clientele is interested. In a 1983 survey (U.S. Congress,Joint Committee on Printing 1984, p. 5) depository libraries specifically identified the Record as their number one priority for electronic access, far outdistancing other material.

If the development of GPO search and retrieval software progresses as expected or another congressional agency (HIS, LOC, the Senate computer Center) develops a viable product, they could serve the libraries directly as vendors. Aside from the issue of competing with the private sector, the problems with such direct servicing include diminishing the service to internal congressional users and increased costs for user support to a wider clientele. Congressional support agencies have shown little interest in becoming electronic data vendors. When the JCP encouraged pilot project proposals for disseminating electronic information to depository libraries, congressional proposals were notably limited. Part of the problem with generating congressional proposals is that few congressional agencies have the motivation for direct public service and most do not directly control all of the information that would have to go into a useful data base.

In the case of the Record recent experience with distribution of the Record electronically clearly revealed that each chamber had a strong proprietary interest in "their" section of the Record well after the time they passed the product of their efforts on to the GPO.

The alternative to direct access to the Record through congressional sources would be to support the Depository Libraries (and perhaps other libraries) in their purchase of commercial data bases. Vendors argue, depending on the number of simultaneous users required and the overall number of outlets, cost to the government would be relatively low. Based on their proposal for Senate access, Legi-Slate suggested that they could provide their full service (including much more than the Record) to the Depository Libraries for approximately $3000 per library if only 5% of them were allowed to sign on at any one time. The figure would drop to less than $300 per library if only the Congressional Record were included (see table 8). Doubling the number of simultaneous users would approximately double the price. Other vendors indicated a willingness to develop similar advantageous pricing arrangements.

Table 6 Fee Table for Vendor Provided Access to the Congressional Record

	FULL SERVICE (Votes, Schedules, Briefings, Full text of bills, Record, Federal Register, briefings, etc.)		CONGRESSIONAL RECORD	
LEVEL OF SERVICE				
Simultaneous sign-on ratio	20%	5%	20%	5%
Total Access Numbers	1400	1400	1400	1400
Simultaneous sign-on limit	280	70	280	70
FEES				
Retail Price	$32,800	$32,800	$2600	$2600
Bulk Price	11,808	3,000**	$936	$250**

*This is an annual subscription service with no connect time charges
**Approximate

Sample fee schedule provided by Legi-Slate based on current contract with the U.S. Senate

Opposition to citizen access to congressional data via vendors comes in two forms. First, some feel that it makes little sense to give congressional data to vendors well below the cost of production and then have to buy it back at a seemingly high price. The vendors counter this argument by outlining the value they have added to the raw government data in combining a number of types of data in one place, providing sophisticated search and retrieval capabilities and transmitting it. Secondly, it is argued that making vendors the sole source of data does not guarantee its continued existence or the form in which it will be delivered. Data vendors go out of business regularly, and public information needs may not match those of private interests which pay the bills. Interest groups are more interested in up to the minute information whereas most citizens are interested in looking at the policy process in retrospect. It is not inconceivable that after a number of years with a large database such as the Congressional Record vendors would begin to balk at keeping it all on-line and using up that much storage. Archival searching of the Record may be either delayed or impossible. Finally it is unlikely that true market competition will be evident in providing access to a data base such as the Record, this could mean either a monopoly or limited competition and therefore no guarantees as to price.

It is the assumption of this analysis that electronic access to the Congressional Record will soon be the norm for the most avid users (well financed interest groups and researchers). Reasonably equitable access will not be guaranteed unless the general public and the less endowed organized interests have atleast the capacity to search the Record using modern tools and that ultimately public retrieval of Record material electronically would be highly desirable to guarantee access, and could be more cost effective. Costs could be contained and access guaranteed by continuing the distribution of the hard copy (and microform) format, harnessing new technology to provide more timely and adequate hard copy indexes, using GPO to provide print on demand tailored products at a reasonable fee, subsidizing access to electronic search capabilities (probably through a commercial vendor) for current issues of the Record, and providing improved archiving and search and retrieval of the bound Record through CD ROM.

Public Access to Committee Reports, Prints and Hearings

THE RATIONAL FOR PUBLIC ACCESS

Woodrow Wilson's comment of over a century ago that "Congress in committee is Congress at work" rings as true today as it did then. Anyone who focuses solely on the more public floor proceedings misses the stage at which legislative options are generated and molded.

Committees generate a great deal of information (over 800,000 pages per year), from pre-meeting analyses developed by committee staffs or congressional support agencies, to hearing transcripts and final reports. While the terminology is not absolute, the general categories of committee output are usually defined in this manner:

COMMITTEE PRINTS: Publications prepared by either committee staffs or consultants as working papers for formulating legislation.

HEARINGS: Verbatim transcripts of committee meetings as well as submitted testimony.

COMMITTEE REPORTS:

- -Committee Reports: statements accompanying bills voted out of committee giving the reasons for approval
- -Special Reports: investigative activities of committees, oversight activities and general public policy studies in which the committee is formally reporting back to Congress.

DOCUMENTS: A specified list of publications generally printed on a regular basis by the Congress and not included in the above categories.

The importance of these categories lies in the fact that they are subject to different access and dissemination policies. Hearings and prints remain the property of the issuing committee. Prints are not as a matter of course made available for sale by GPO or sent to the Depository Libraries. Hearings are generally made available for sale and to the Depository Libraries. Reports and documents are issued by the House or Senate as an entity, formally numbered, and become part of the Serial Set distributed to Depository Libraries. Some committee prints and hearings are later distributed as reports or documents securing them a more formal place in the dissemination process (see Morehead, 1978, pp.172-192 for more details).

For the purposes of this discussion we will consider congressional committee publications generically except where distinctions imply different access and dissemination characteristics.

CURRENT PROCEDURES FOR CREATING COMMITTEE PUBLICATIONS

Each committee is the master of its own prints and hearings determining what is to be collected, how it is to be printed and the nature of distribution. There is no absolute deadline on the timeliness of creation and distribution, with many committee documents being printed months after the fact. Once committee reports and documents are submitted to Congress, they become the property of the chamber.

A large percentage of committee material is created on word processors, allowing for directed electronic conversion into a typeset format. Printing in the Senate is coordinated through the office of the Printing Clerk (a subdivision of the Secretary of the Senate's office). House Committees work directly with the GPO. Until recently, relatively little committee material arrived in electronic form but that is changing rapidly. The GPO has been working with six committees in using a dial up composition procedure and soon many committees will be moving in that direction. Committee staff will create the text on their word processor, and send it to GPO via phone lines where it will be formatted for printing. When the copy is sent back to the committee's laser printer, it will look like the printed version. Committee staff will then make corrections until the electronic version creates a final product to their liking.

One of the current problems with committee materials is that a significant portion (photos, graphs, typed testimony) arrives in camera ready form and no typesetting is done. With the coming of electronic versions of committee materials there will be a great deal of pressure on committees to have such material scanned or rekeyed to avoid gaps in the electronic document and reduce the number of inclusions indicated with a photo or graphic "tags". Eventually digital scanning capabilities will allow even the inclusion of photographs in the electronic version.

With the spread of dial up composition, a much larger percentage of congressional committee material will arrive in electronic form and be printed from an electronic data base. Committee use of much material suggests that we may well see committees being able to get by without printing full hard copies of hearings and even prints, relying on a print on demand capacity to draw out sections they need.

CURRENT ACCESS AND DISSEMINATION OF COMMITTEE MATERIALS

Finding What is Available

There is no complete government created listing or index to committee materials. Items for sale show up in the microfiche GPO Publications Reference File (available on-line via Dialog) and the GPO Monthly Catalog available in hard copy or electronically via BRS, Dialog or SAC Search.

Committee hearings provide a special problem for access since there may be a considerable time elapse between holding he

hearing and the issuance of hearings publications (anything from a few days to a number of years). Congress provides no central system for cataloging, announcing or indexing hearings. Some committees assign numbers to their hearings to facilitate tracking while others do not (CIS, 1986).

Congressional Quarterly's Congress in Print gives weekly updates of newly published congressional material (also available on line via CQ's "Washington Alert" system). Until 1970 content access to congressional committee publications was hampered by inadequate tools for identifying relevant publications and locating the material of interest within them. The incomplete indexing and selective dissemination of committee materials led to the creation of the Congressional Information Service (CIS). CIS, a commercial indexing and microfiche production company, acquires copies of all committee material (hearings, prints, reports and documents) from the committees, document rooms or the GPO. CIS evaluates the entire publication and indexes it by subject, bill number, bill name, author, witness, etc. Using the CIS hard copy indexes available in most libraries, one can determine the Superintendent of Documents number. If the researcher is in a federal Depository Library, this number leads to a shelf position. Other researchers can request the report from the committee or their congressman. If out of print, it is possible to purchase a microform or hard copy version of any congressional material from CIS. CIS sells full microfiche sets of all congressional publications (except the Congressional Record) on a subscription basis. The CIS. indexes are created in electronic form, and are available on-line via Dialog.

Current Access to Committee Publications

HARD COPIES: A limited number (see Table 2) of Committee reports and documents are available from the House and Senate Document Rooms. Additional free copies of documents and reports, as well as hearings and prints are available directly from the committee. The public can request copies through their Member's office (who then go to the Document Rooms or the committee). A minimum of 25 copies of all committee publications are sold through the Congressional Sales Office of the GPO, with committees suggesting the availability of larger numbers of high interest items. GPO also offers microfiche subscriptions to committee reports and documents.

All committee reports and documents, and most hearings are available to the federal Depository Libraries, with the libraries having the option of choosing the medium (hard copy or microform) and the categories of documents they wish to acquire (see Table 5)

COMMERCIAL SOURCES: CIS provides the most extensive commercial outlet for all committee publications (hearings, prints, reports and documents). CIS offers a subscription service for all the committee materials on microfiche. Microfiche and hard copies are made available on demand.

ELECTRONIC ACCESS: Electronic access to committee materials is very limited at present. Since everything printed at GPO uses the same printing codes, the search and retrieval software currently under development by both committees and vendors would work with very little modification on committee materials. For the Iran-Contra hearings, Legi-Slate did not wait for the official committee hearings but purchased verbatim transcripts in electronic form from a court reporting company and put up the full text with search capabilities a few hours after the testimony occurred. Committee publications were covered by the JCP resolution authorizing electronic sales and there has been some selective purchases by vendors, but no one is yet offering the full set of committee publications.

OPTIONS FOR FUTURE COMMITTEE PUBLICATIONS ACCESS

Criteria for Evaluating Access

TIMELINESS: Interested individuals and organizations would like to use committee publications in much the same way they use the Congressional Record, to assess the arguments associated with proposed policies and to bolster or refute them before a final decision is made. Unfortunately, under present production methods the materials do not become available until well after the key decisions have been made. Increased electronic production will make more timely delivery possible, but lacking rules for timely completion committees may well not release materials any quicker for printing and dissemination. The more timely committee publications, the more likely citizens will be able to do more than react to policy decisions.

COMPREHENSIVENESS: In order to get a full picture of committee deliberations one needs access to a full set of records. Under current procedures, one must go a number of different places to receive free copies of the different documents, and may well find that copies no longer exist for distribution.

SEARCHABILITY: Committee publications are a bit easier to search than the Record due to the existence of the CIS Indexes. With increased translation of committee publications into electronic format, full text searching will become a real possibility avoiding some of the limitations of using an index.

COSTS: Congress expends a considerable amount of money distributing committee materials pointing out their commitment to public access.

ARCHIVABILITY: Hard copy committee publications pose a considerable space and security problem for most libraries.

FLEXIBILITY: Committee publications are significantly more coherent documents than is the Congressional Record, but in hard copy do not facilitate the creation of tailored documents.

PUBLIC ACCESS: There is a solid commitment to public access to congressional committee publications, at least after the fact.

Formats for Access and Dissemination of Committee Material

As long as committees print hard copies, most users will prefer access to hard copy or microfiche. The well established and high quality character of CIS indexes suggests that Congress would be unwise to duplicate such a service. If anything Congress should focus it content access efforts on exploring full text searching and compare its utility to traditional indexing. To the degree that full text search and retrieval improves content access, on-line searching may begin to overshadow the use of indexes. Similar to the Record, much of the archiving difficulty could be reduced through the use of CD-ROM, while increasing the capacity to search. The inherent logic of many committee publications which organizes material by topic and or chronologically does not make print on demand of tailored items by GPO as appealing as for the Record, but for long hearings some applications would be possible. Congress could improve public access to committee material by:

- -Creating a method of keeping track of committee publications
- -Encouraging more timely submission of committee publications
- -Encourage committees to take full advantage of electronic composition and ensure vendor access to electronic committee data bases to allow the development of innovative search and retrieval capabilities.

The Depository Libraries must be maintained as the primary conduit for disseminating committee publications. All committee publications should be subject to depository acquisition procedures. If committees move toward not publishing hard copies, procedures must be made available for Depository access to the electronic version. If vendors develop a full range of committee publications on-line, the most cost effective method of access may well be through underwriting Depository Library acquisition. Using the example in table 8 this would cost less than $300 per library.

Public Access to Scheduling and Calendar Information

THE RATIONALE FOR PUBLIC ACCESS

Action in Congress takes place in a wide number of arenas. Those who wish to affect the outcome of impending decisions by communicating with the decision-makers or observing the decision process need a mechanism for identifying when and where the decision will be made. While "Sunshine" legislation and permissive committee rules have opened many more committee and subcommittee hearings to the public, and C-SPAN has provided direct public access to floor proceedings, interested citizens can not be expected to monitor decision arenas constantly in

hopes of catching something of interest. Serious monitoring of Congress requires access to information on scheduled action.

CURRENT PROCEDURES FOR CREATING CALENDAR AND SCHEDULING INFORMATION

Committee Schedules

Committees have traditionally maintained significant control over their own schedules. An attempt by HIS to create a coordinated computerized scheduling process in the House (COMIS), (see Frantzich, 1982, p. 129) fell victim to the unwillingness of committee leaders and staff to give up the strategic power involved in setting committee schedules. Computerized committee scheduling in the Senate was made mandatory and provides committee information on-line via the Senate Calendar of Business created by the Secretary of the Senate's Office. Committees are expected to keep the Senate LEGIS office informed of impending hearings. In rare cases, committees can request that for security or sensitivity reasons a hearing not be listed. Senate schedules can be searched on line by committee, date, subject, etc. House and Senate Committee schedules appear officially in the "Daily Digest" section of the Record and schedules are distributed more informally by the individual committees.

Floor Schedules

Floor schedules in the House are published in the daily Calendars of the United States House of Representatives. The calendars are currently being produced electronically on an experimental basis. With a fully electronic data base on-line searching would be possible. Senate floor schedules are created by the party secretaries and printed in the "Daily Digest" section of the Record, and available on-line through the Senate Calendar of Business.

PUBLIC ACCESS TO SCHEDULING INFORMATION

Congressional Sources

COMMITTEE SCHEDULES: Committee Schedules appear in the "Daily Digest" section of the Record. Committees answer phone inquiries on upcoming schedules and often distribute written schedules.

FLOOR SCHEDULES: The upcoming schedule for the week is announced by the committee leaders in each chamber on the floor and become part of the Congressional Record. Subscribers to the Record can also determine the next day's schedule in the "Daily Digest" section. The delay in receiving the Record by mail diminishes the utility of these sources. Recorded scheduling messages provided by the party leadership and the cloakrooms primarily for Member and staff use can be used by the public.

Commercial Sources

The Congressional Monitor, published by Congressional Quarterly, provides a hard copy daily summary of upcoming committee hearings listing anticipated witnesses and the time and place of meetings. The Washington Post includes a daily schedule of committee hearings. A number of interest groups such as the U.S. Chamber of Commerce provide recorded messages on upcoming hearings of particular interest to their membership. Congressional Quarterly's Washington Alert System and Legi-Slate both offer on-line committee schedule information.

All the commercial sources indicate that they must do considerable "digging" to provide complete and up-to-date scheduling information. The electronic data bases spend considerable effort to call each committee every day to assure their clients the kind of accurate and up to the minute scheduling information they desire.

OPTIONS FOR FUTURE SCHEDULING INFORMATION

Criteria for Evaluating Access

TIMELINESS: Timeliness is the prime consideration for a useful scheduling information procedure. Once the session has past or the decision made, the information is of virtually no use. Current reliance on hard copy scheduling information dissemination dramatically reduces the utility of such information, especially for individuals outside of Washington.

COMPREHENSIVENESS: The reason for acquiring scheduling information lies in making sure that nothing is missed. Without a comprehensive listing of upcoming events, an improved information procedure would mean little. Current difficulty in discovering committee schedules, especially in the House, limits the ability to monitor Congress.

SEARCHABILITY: The overlapping committee responsibilities and the variety of issues contained in individual pieces of legislation requires that a useful scheduling information procedure would allow the user to discover items of interest which may not appear obvious initially. While providing easy access to all congressional scheduling information in one place would be an improvement, the ability to search by subject, witness, Member and/or bill number would be quite useful. Some of the searching requirements would be reduced if an upgraded and searchable bill status system would allow identifying legislation of interest which then could be searched in the scheduling data.

ARCHIVABILITY and FLEXIBILITY are not particularly important for scheduling information.

COST: Congress currently commits only limited resources for public access to scheduling information.

PUBLIC ACCESS: In order to play a meaningful role in the

development of public policies (as opposed to simply reacting to themt), the public needs to be able to anticipate upcoming decisions. The availability of commercial scheduling information services, particularly on-line, widens the gap between the information "haves" and "have nots".

Formats for Access to and Dissemination of Scheduling Information

Current hard copy sources of scheduling information are incomplete and of little use to citizens and organizations outside of Washington. Requiring committees and party leaders to establish schedules further ahead would reduce the lack of timeliness of current printed sources, but is probably unrealistic given the traditional working procedures of Congress. Compared to the impending Congressional Record data base and (as will be discussed) the automated bill status system, Congress is considerably farther away from a comprehensive on-line scheduling data base. If such a comprehensive congressional data base were to be developed, public access through a centralized dial-in phone service (such as is currently done for bill status) would serve the interests of most citizens. In the near term, if it is determined desirable for interested citizens to have scheduling information available in a timely fashion, allowing Depository Libraries subsidized access to vendor data bases or using the commercial services as the basis for a dial-in information line would work well. Providing all Depository Libraries access to one of the scheduling services could be done for less than $900 per library (assuming a 5% simultaneous sign on). Unless existing vendors were willing to unbundle the scheduling data base from the bill status data base, the $900 figure would include both. Some reduction of information requests to the committees could be accomplished by selling the existing Senate LEGIS schedule tapes to vendors. This would require re-writing the JCP policy on tape sales to include material which does not become a document.

Public Access to Bill Status Information

THE RATIONALE FOR PUBLIC ACCESS

Monitoring the progress of the thousands of bills introduced in Congress (15-20,000/Congress) is important for any individual or group desiring to have an impact on the progress of a piece of legislation. Unless one accepts the "trustee" role of legislators who go about their representation without the active involvement of their constituents and other interested groups, it is important to provide interested parties with complete, relevant and up-to-date information as to where particular pieces of legislation are in the process.

Monitoring the status of legislation is more difficult than it might seem. Above and beyond the number of stages in the process, each controlled by different sub-units (subcommittees, committees, etc.), the process of amendment allows the substance of legislation to change. Entire bills can be included in other

bills and the official title often does not reflect the content. Following a bill by number or title may miss a great deal.

CONGRESSIONAL CREATION OF BILL STATUS INFORMATION

The Congressional Research Service creates the hard copy Digest of Public General Bills and Resolutions. It includes a summary of introduced bills, sponsors and co-sponsors, and action taken on the bill. It is a clear case of how automation has reduced public access. Originally it was printed a number of times each year giving frequent updates on action. Since automation, it is only printed once a year leaving those without electronic access at a severe disadvantage.

The Bill Status system was one of the first automated information systems in the Congress, with Congress' adoption of an automated system well behind many state legislatures. The LEGIS system is really three separate systems which share information. The House and Senate create computer tapes of all official action taken by their chambers, while the Congressional Research Service develops bill digests for every bill that has been introduced. Based on the bill digest, every bill is indexed by one or more categories by CRS to facilitate searching. The three participants share their individual data and create a separate comprehensive data base for their user. Users can search bills by bill number, sponsor, index terms, etc. Once the relevant bill has been discovered, information such as sponsors and co-sponsors, stages the bill has gone through, and a summary of the bill can be displayed. For legislation reaching the floor vote stage, aggregate voting totals are provided, but the votes of individual Members can only be accessed by the general membership for 24 hours. The bill status data base is quite timely, reflecting actions less than twelve hours after they happen.

While currency is important, the ability to retrospectively analyze the progress of previous bills can be important as one plans strategy for shepherding current legislation through the process. For example, a Member might want to find out who co-sponsored particular kinds of legislation in the past, or determine the kinds of legislation specific committees favor or oppose. For this reason, previous year's data bases are being kept on-line. Political use of such retrospective information could threaten its continued availability since office holders do not want to make it too easy to monitor their behavior. Individual candidates, interest groups and the national parties have used the LEGIS system as part of their opposition research process. It is possible to quickly identify the legislative record of a Member, determining the kind of legislation they support, whose legislation they co-sponsor (and vice versa), and summarizing their legislative success at a "batting average." HIS and the Senate Computer center will do a legislative session history for each sitting Member summarizing their efforts and successes--a service which challengers must purchase or use labor-intensive hard copy records to duplicate

THE TRADITIONAL METHODS OF PUBLIC ACCESS TO BILL STATUS INFORMATION

Informal Routes

Individuals "in the know" go directly to the committee or to their Member of Congress for information on bill status. The requester seldom knows which of the following resources these mediators use.

Written Sources

The daily Calendars of the United States House of Representatives, created by the Clerk's office, provides a bill status chart of major legislation on its back page and a more detailed "History of Bills and Resolutions". Complete cumulative histories are printed on the first legislative day of each week the House is in session, with subsequent days listings incldiung only new action. Calendars are distributed free by the Documents Rooms and distributed to the Depository Libraries.

The Digest of General BIlls and Resolutions is crated by CRS .The hard copy version of the Digest, is distributed to Depository Libraries and subscribers. The hard copy has two major limitations. The time it takes to print and the delay between issues makes the timeliness a major problem for anyone desiring to keep abreast of the most current happenings. Secondly, unless one knows the bill number of a particular piece of legislation, there is only limited indexing to discover bills relevant to your interests. This becomes a particular problem for heavily amended bills.

Private journals such as Congressional Quarterly and the National Journal keep tabs on major pieces of legislation in a timely fashion, but can not cover the full range of issues. For legislation which becomes law, the Congressional Information Service publishes and annual CIS Index Legislative Case Histories which abstracts and traces the development of all bills which become laws, with more detailed analysis of major legislation. The Commerce Clearinghouse provides a looseleaf service,Congressional Index which gives the status of both congressional and state legislative bills listed by number. They also provide a daily tracking service for subscribers ("Congressional Legislative Reporting Service".)

Electronic Access

Members and their staffs have direct access to LEGIS via their own terminals. They can specify bills of particular interest and get an updated message every time some action on any one of those bills takes place. Most offices respond to simple requests for bill status information from the public directly, but it is impossible to determine the volume of requests handled in this way.

Individuals in Washington can use the public terminals at the Library of Congress to access the bill status system, although it does not include any individual voting data or the ability to tag particular bills for monitoring on a continuous basis.

Telephone Requests

The House and Senate Bill Status Offices respond to phone requests from their chambers. Public requests are all directed to the House LEGIS office (part of the Clerk's office) for either an oral response or a hard copy of the relevant printout from the LEGIS system (20 cents per page with a $5 minimum). Table 9 outlines the volume of external and internal phone requests for bill status information handled by the House LEGIS system.

Table 9 The Volume of Telephone Bill Status Requests Handled by the House LEGIS System

	1984	1985	1986
SOURCE OF REQUEST			
House Offices	183,635 (66%)	152,062 (65%)	137,839 (64%)
Senate Offices	6,438 (2%)	5,331 (2%)	5,684 (3%)
Others (Public and Agencies)	87,420 (32%)	72,811 (33%)	82,648 (33%)

SOURCE: House LEGIS Office .

Commercial Access

Recognizing the need for timely, easy to use, convenient and more complete bill status information, a number of commercial data bases developed with bill status systems at their core. They purchase the bill text tapes from the GPO, attach their searching software and add additional information, such as actions on bills, and individual Member voting records.

Each commercial data base points out the perceived weaknesses in the LEGIS system (and that of their competitors) and shows how their product solves the problem.

Legi-Slate points out that searching the official title or digest of a bill misses a great deal, especially as the bill goes through the process of amendment. An early version of a single purpose bill may be phrased in such a way that potential key words may never show up (see figure 2). As the bill progresses, amendments having nothing to do with the official title of the bill make the initial indexing terms obsolete. Legi-Slate has a staff member read every version of every bill, adding index terms to cover amendments and topics which are not clearly indicated in the official title. Legi-Slate also offers the full text of bills which can be searched by any word or combination of words to discover relevant legislation, can then be looked up in the bill status system. Since a key aspect of the legislative process involves the substantive changes legislation goes through, Legi-Slate allows you to compare different versions of the same bill to see what was added or deleted at each stage. Legi-Slate users can specify legislation they want to watch and every time they sign on an updated message will say "Since the last time you looked, this is what happened to these pieces of legislation." Other Legi-Slate data bases allow one to do voting analysis on a particular bill or set of bills. All Legi-Slate data bases (full text of the Congressional Record and the Washington Post, bibliographic citations of Congressional Quarterly and the National Journal, etc.) are indexed in relation to each piece of legislation allowing one to follow not only the internal bill status, but what has been said outside the chamber.

Congressional Quarterly's "Washington Alert System", does not index each version of a bill by reading it entirely, but relies on the official title. CQ enhances basic bill status information by giving cross references to its various voting studies.

Commerce Clearinghouse offers ELSS (Electronic Legislative Search System) via G.E. Information Services. It allows the searching of all bills in Congress and state legislatures by bill number, title, abstract and actions.

Commercial data bases do not come cheap (See table 4). Differing product arrangements and pricing systems make comparisons

difficult. Legi-Slate packages bill status along with scheduling and full text of bills for a commercial rate of $9,500 a year. COngressional Quarterly sells only a complete package of services at $8,000 per year (with special arrangements for less than open-ended usage). Commerce Clearinghouse charges a connect time rate of $235 per hour for on-line response and a lower rate for delayed batch processing.

The vendors see their market as those individuals and groups needing continuous and immediate access to up-to-date bill status information. They want it at their fingertips. They don't want to go through the inconvenience of calling or sending for the hard copy. In some cases, they would rather not let anyone know what they are monitoring. For lobbyists that make their living by knowing what is going on and attempting to influence it, the biggest danger lies in being "blind sided" and having a client call up and say "Why didn't you tell me that that amendment had been added."

FUTURE ACCESS AND DISSEMINATION ALTERNATIVES FOR BILL STATUS INFORMATION

Criteria for Evaluating Bill Status Access

TIMELINESS: Compared with the Congressional Record, timeliness dominates as the most important characteristic for bill status information. For the vast majority of users, bill status information has a relatively short "shelf life". Delayed knowledge of when legislation passes crucial stages (such as reporting from the full committee which indicates political viability) is no better than complete lack of information. Historical bill status information is of interest to a much smaller portion of the public attempting to reconstruct legislative histories, thus ARCHIVABILITY is much less important. Since bill status information is largely important for the monitoring of ongoing action. The FLEXIBILITY of combining it in different ways is of minimal importance.

SEARCHABILITY: The more specific a searcher's interests, the more important the ability to search for bills and sections of bills. Using traditional methods, it has been particularly difficult identify those bills which might be of interest, especially after considerable amendment. Easy content access to bills for monitoring could discourage congressional attempts to "hide" controversial sections among those with broader support.

Meaningful content access requires a search capability which goes beyond simply scanning the official title or digest and allows one to see the actual content of the amended bill.

COSTS: Congress has put a much lower priority on expending money for public access to bill status information than for other bodies of information. Any changes in public access would involve more expenditures.

PUBLIC ACCESS: While no one really opposes public access to bill status information, it seems to be assumed that "those who want to know what is going on will find out." Most of the public is ill informed about the legislative process and find it difficult to understand the nuances of the various actions a bill status system chronicles. To a degree there is an attitude that "what they (the public) don't know, won't hurt them," and increased access could bring about considerably more public "meddling." As one moves from a discussion of letting the public know what happened after the fact (the Congressional Record, committee documents, etc.) to providing information about an ongoing process, one is forced to come to grips with one's definition of democracy. A democracy of reactive citizens is much different from one of active citizens.

Bill Status Format Alternatives

A useful bill status system is unthinkable given available technology without the use of an accurate and timely on-line data base. The public could garner the information from that data base directly, via a vendor, or mediated by congressional staff, with the information residing in such a data base.

Dissemination Alternatives for Bill Status Information

In the long term, one can conceive of information such as bill status being provided directly to the public via teletext such as the 3 million French citizens who have access to over 1,200 data bases via telephone (Bezold and Olson, 1986, p. 5-26), but such an infrastructure (equipment and administration) does not exist in the U.S. Stimulating the demand and resources for such an approach is well beyond the dissemination of congressional information alone. The public's desire for congressional information would do little to support such a system and congressional information would have to ride on the "tail" of more highly valued information services such as financial, educational and entertainment data bases. Now, even time sensitive information such as bill status will depend on more conventional dissemination approaches.

MEDIATED CONGRESSIONAL ACCESS: For the bulk of the public, the ability to call for bill status information would serve their interests. Improvements in the current call-in service to facilitate public access would include:

- -Greater publicity on the availability of bill status information over the phone.
- -The establishment of a toll free "800" number for bill status information, or an "800" congressional information "hot line" (see later discussion).
- -Improved full text bill searching software to support bill status telephone operators.

DIRECT CONGRESSIONAL ACCESS: A number of key individuals indicate that they are not opposed conceptually to direct public access to the LEGIS files as long as it would not diminish the quality of in-house access. Unbridled public access, particularly if it were via a local call (TYMENET OR TELENET) might well overwhelm the in-house systems and reduce response time to an unacceptable level. Adding the Depository Libraries to the LEGIS system is feasible in terms of system capacity. Providing bill status material on-line would require software with increased user friendliness, a training program, user support and a decision as to which in-house bill status system (House, Senate or LOC) would provide the service. Some opposition would arise from Member offices who see providing such information as part of their services and as a means of developing mailings lists of constituents with particular interests.

ACCESS VIA VENDORS: Bill status systems offered by commercial vendors are currently superior to those available within Congress. Similar to disseminating the Congressional Record to Depository Libraries through vendors, financially favorable arrangements could be made to purchase vendor services for on-line bill status access. Similar to the calculations in Table 8, bill status information (as well as scheduling information) could be purchased separately for Depository Libraries for about $900 per library. Vendors could also be contracted to provide dial-up bill status service, relieving the LEGIS office of 1/3 of its current demands.

SOME FINAL ISSUES

The Ideal Congressional Data Base

The ideal congressional data base would allow searching the various bodies of congressional information (the Record, committee publications, bill status, schedules, etc.) without having to know in which category of information the desired material resides. Most public users want to find out about action in a particular issue area or by a particular Member and are currently hampered if they don't know if the material is in a committee report, a committee print, the Record, etc. No one single index to congressional material currently exists either in hard copy or on-line. The massive amount of congressional material makes such global electronic searching time consuming and resource intensive, but appropriate software and improved hardware will increase the feasibility of a true congressional information "system", rather than spotty information "fiefdoms" of varying quality, using different formats and at times with overlapping content.

Helping the Unsophisticated User of Congressional Information

A number of the suggestions made above and the current availability of congressional information via commercial vendors apply most directly to a sophisticated congressional information

consumer who knows what is available and how to get it.

To make congressional information truly available to the broadest segment of the population, many potential users will need considerable help sifting through the various kinds of information and methods of access. Currently, to the degree that the needed information is available, one has to call, write and/or visit a number of offices. Establishing an "800" congressional information hotline coordinating all information requests would greatly simplify the process of accessing congressional information. With one toll free call (800 CONGRES) one could find out about the status of bills, mark the calendar for an upcoming hearing, order a congressional hearing directly, have a section of the Record printed on demand, etc. Such a service would combine the current available public services of the GPO Congressional Sales Office, the LEGIS Bill Status Office, and the Document Rooms, as well as expand the dissemination of information currently not readily available to the public. Such a center should have access to all congressional data bases (both internal and commercial) as well as hard copy indexes. Operators would be directed to equalize costs by guiding individuals to free sources first then to the government and commercial sales outlets.

Aside from cost (which might even be reduced by combining existing services and increasing sales of government information products), three types of opposition might develop. Current sources of portions of this service (LEGIS, Congressional Sales Office, etc.) might fear for job security. Vendors of commercial services might fear reduced sales of documents or use of their data base. Congressional offices, accustomed to providing some of these services might fear the loss of identifiable service to constituents. The job security problem could be handled by retraining. Vendors might well find that a centralized service could direct more business their way. Congressional office needs could be satisfied by using zip code directories to mark outgoing printed material with the customary "compliments of congressman xx" and providing each office with a listing of constituents helped. Alternatively, written responses to constituent requests could be sent to Member offices for monitoring and mailing.

The Relative Roles of Congress and the Private Sector In Providing Access to Congressional Information

This analysis has worked under the assumption that a mixed governmental and private sector approach to providing public access to congressional information is both realistic and desirable. Congress' first responsibility lies in providing for its own information needs. To the degree that these information products have a commercial value, Congress has the right to sell them for a reasonable price either directly to the public or indirectly via vendors. Congress must take responsibility for assuring that citizens have realistic access to traditionally distributed information products even after changes in format alter the dissemination procedures. When new technology and

formats widen the physical and/or content access gap, Congress has the responsibility to maintain reasonable equity.

When it comes to providing new congressional information products, Congress is not the appropriate entity to play the key innovative role, especially if it means diverting resources from providing for internal information needs. At a minimum the vendors want predictability of government involvement in the market place, particularly assuring that government will not allow the private sector to "test the waters" and then use government's greater resources to provide those products already proven to be commercially viable at rates which undercut the commercial risk taker.

In assessing an expansion of Congress' role in disseminating congressional information the key questions should be: Does the public need the information in question to play a meaningful role in the policy process? and To what degree has the current availability of this information in new formats reduced the equity of public access? If access has been decreased, Congress must act, either by providing the enhanced information directly or cooperatively through the vendors.

Recognizing the rights of the public to congressional information, vendors must be prepared to deal with government stimulated dissemination differently than with other clients by allowing special pricing arrangements. Vendors deserve to be compensated for the enhancements in value they add to congressional information products, but must remember that in choosing to disseminate traditionally public information they must help accomdate equitable public access. Far sighted vendors realize that the "public" served by such sources as the Depository Libraries is much different than their traditional customers. Individuals and organizations currently paying significant fees for immediate desk top access will not drop these services, even if similar information were available in a similar format across town at the Depository Library.

New technology does not allow Congress to abdicate its responsibility to fully inform the public--to the contrary, available technology holds the potential for providing a realistic means by which a broader range of citizens can monitor, effect and react to the policy process.

BIBLIOGRAPHY

INTERVIEWS:

Over forty interviews with members of congressional staffs, information vendors and members of the library community were carried out in preparation of this report. The author also participated in five information meetings with various groups of interested parties sponsored by OTA. Data were provided by GPO, the House LEGIS office, House and Senate Document Rooms, the Clerk of the House, the Secretary of the Senate, HIS, and various vendors.

WRITTEN MATERIAL:

Bezold, Clement and Robert Olson. 1986. "The Information Millennium: Alternative Futures." Washington D.C.:Information Industry Association.

Block, Bernard. 1980. "The Congressional Record", Serials Review, vol. 6 (Jan-March):23-28.

Bracken, Darcia. 1987. "The National Technical Information Service: A Federal Resource for Health Information and Services," Journal of the American Society for Information Science, vol. 38, no. 1 (January):65-67.

Bushkin, A.A. and J. H. Yuron. 1980. "The Foundations of U.S. Information Policy," in Information, Computer and Communications Policies for the 80's, H.G. Bassman (ed). North Holland Publishing Company.

Cloud, David s. 1987. "Congress Moves to Put 'Record' On-Line," Roll Call, April, 20:22.

Everhart, Elfrida. 1910. A Handbook of U.S. Public Documents. Minneapolis: H.W. Wilson Co.

Ferrell, J.E. 1986. "Should We Pay Twice for Federal Data?", Examiner.

Frantzich, Stephen E. 1986. Write Your Congressman: Constituent Communications and Representation. New York: Praeger.

----- 1986a . "Public Access to Congressional Information: The Potential and Pitfalls of Technology Enhanced Access." Draft contractor report submitted to the U.S. Congress Office of Technology Assessment.

-----1985. "Congressional Applications of Information Technology". U.S. Congress Office of Technology Assessment. Contract US 84-10/16.

-----1984. "The Implications of Information and Communications Technology for the American Political System." U.S. Congress Office of Technology Assessment. Contract 433-7580.0.

----- Computers in Congress: The Politics of Information". Beverly Hills CA: Sage Publications.

General Accounting Office.1984. Government Printing Office's Depository Library Program. Report to the Joint Committee on Printing.

Government Printing Office. 1987. "Electronic Printing Services Expansion Plan." Draft Revision # 11.

Government Printing Office. 1980-1986. Annual Reports.

Hernon, Peter (ed). 1983. New Technology and Documents Librarianship. Westport CT: Meckler Publishing.

Hernon, Peter and Charles R. McClure. 1987. Federal Information Policies in the 1980's: Conflicts and Issues. Norwood NJ:ABLEX Publishing Co.

-----. 1984. Public Access to Goverment Information: Issues, Trends and Strategies. Norwood NJ: ABLEX Publishing Co.

Hernon, Peter , Charles R. McClure and Gary P. Purcell. 1985. GPO's Depository Library Program. Norwood NJ: ABLEX Publishing Co.

Kennickell, Ralph E. 1987. The U.S. Government Printing Office--Marketing and Publishing. Journal of the American Society for Information Science, vol 38, #1 (January): 68-70.

Michael, Donald. 1984. "Too Much of A Good Thing: Dilemmas of an Information Society", Technological Forecasting and Social Change. vol 25: 347-354.

Morehead, Joe. 1986. "Record Redux", Technical Services Quarterly, vol 3 (summer): 129-137.

-----1978. Introduction to U.S. Public Documents. Littleton CO: Libraries Unlimited Inc.

Morrison, David, C. 1986. "Capitol Hill's Coslty Paper Lode," National Journal, vol 18 (Nov. 8): 2722-2723.

Price, Douglas. 1987. "Constant Technological Change May Become the Norm," Government Computer News, Vol. 6, #7.

Relyea , Harold C. 1985. "Public Access to Congressional Records: Present Policy and Reform Considerations." Government Information Quarterly. Vol. 2 #3: 235-256.

Relyea, Harold C., Jane Bornick, Richard C. Ehlke and Nancy R. Miller. 1985. "The Management of Federal Information Resources: A General Critique of the March 1985 OMB Draft Circular--Matters for Possible Congressional Consideration. Congressional Research Service Report.

Roth, Judith Paris (ed). 1986. Essential Guide to CD-ROM. Westport CT:Meckler Publishing Co.

Roszak, Theodore. 1986. The Cult of Information. New York: Parthenon.

Schmekebier, Laurence and Roy B. Easton. 1961. Government Publications and Their Use. Washington D.C.: The Brookings Institution.

Scott, Michael D. 1984. Computer Law. New York: John Wiley and Sons.

Special Libraries Association. 1986. Government Information: An Endangered Resurce of the Electronic Age. Washington D.C.: Special Libraries Association.

U.S. Congress, Congressional Research Service, American Law Division. 1987. "Sale by GPO of Computer Printing Tapes." memo

U.S. Congress, House, Committee on Appropriations, Subcommittee on Legislative Branch Appropriations. Hearings. 1987. February 23. statements by Katherine Mandsley, D. Kaye Gapen and Page Putnam Miller.

-----. 1986. "Legislative Branch Appropriations for 1987.": 670-674.

U.S. Congress, House, Committee on Government Operations. 1986. Electronic Collection and Dissemination of Information by Federal Agencies: A Policy Overview. House Report 99-560.

U.S. Congress, Senate, Committee on Rules and Administration. 1984 "Annual Report of the Technical Services Staff." Senate Print 99.182.

U.S. Congress, Joint Committee on Printing. 1985. An Open Forum on the Provision of Electronic Federal Information to Depository Libraries. Senate Print 99-84.

-----. 1984. Provision of Federal Documents in Electronic Format to Depository Libraries. Senate Print 98.260.

-----. 1980. Automation Alternatives for Production of the Congressional Record. Committee Print.